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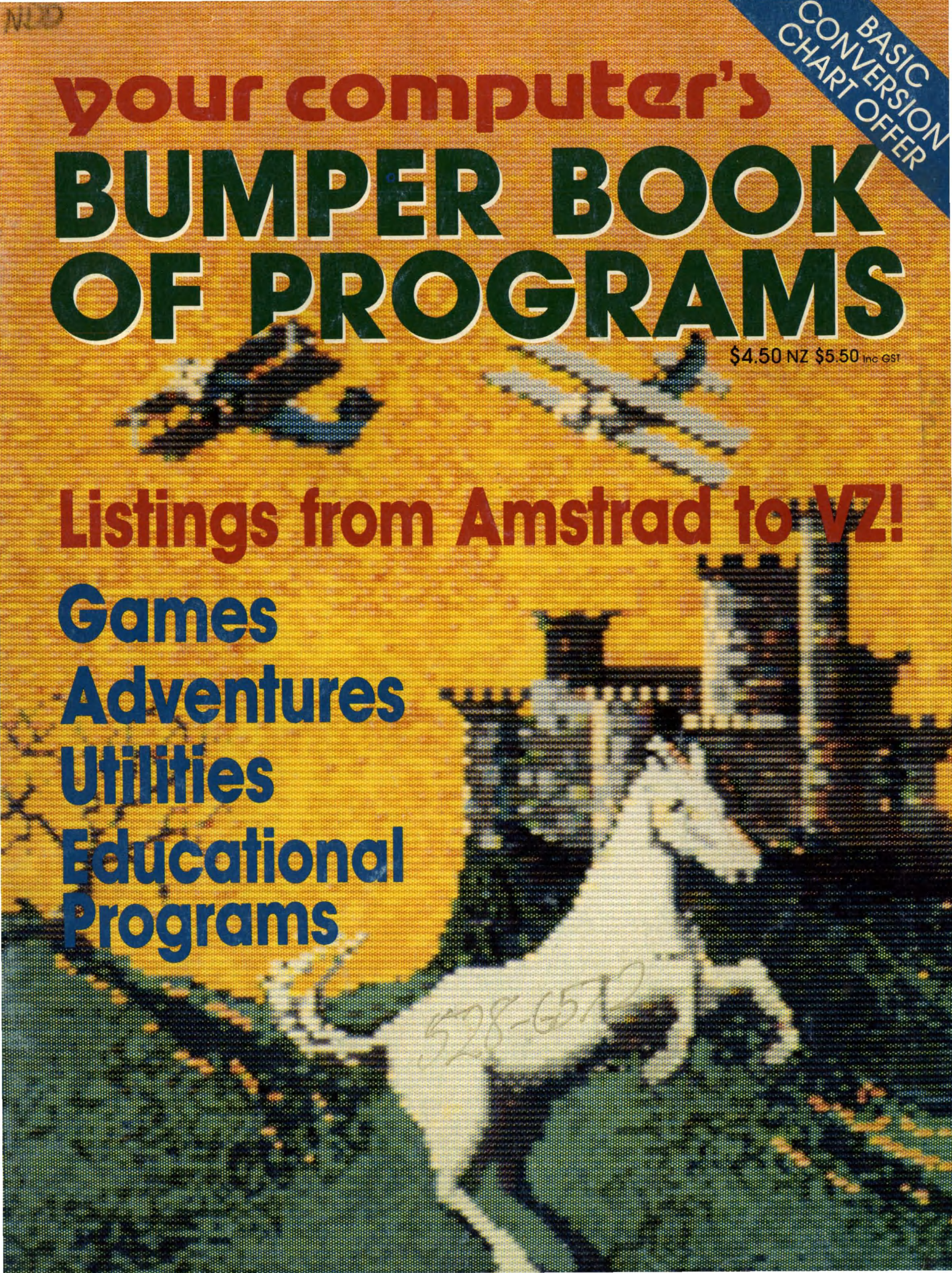

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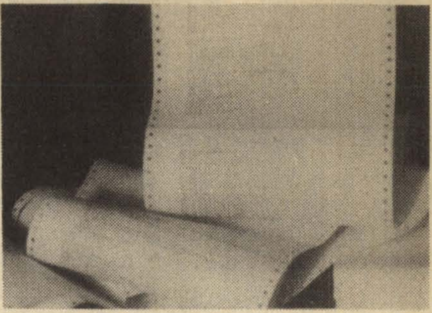
WHAT YOU'LL FIND

You'll find programs galore for just about any purpose in this all new issue of *Your Computer* magazine's ***Bumper Book of Programs***. There are games, games and more games, as well as handy little utilities to help you in your programming and — even one that will give you your biorhthym! We hope you get hours of enjoyment from the programs published. Happy programming!



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The latest listing of user groups around the country (who will, no doubt, be able to help you with your programs!).

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INTRODUCTION

WELCOME to an all new issue of *Your Computer* magazine's Bumper. Book of Programs! We began publishing readers' programs in a special feature called Pocket Programs back in December 1982. But, as popular as they were, by mid-1987 we felt we could better 'inform' our readers and help them learn by publishing programs with detailed explanations and programming hints and tips, and background articles.

> *The biggest source of problems that reader's have had with the programs in earlier issues is fingers.*

This idea gave us the most popular articles we've ever published: Roy Hill's 'Coming Forth' , an overview of the Forth language (May and June '87), and Peter Hill's eagerly followed 'Turbo Tips' series, which started as the two-part 'Twenty Turbo Tips' in late '86, and is still offering hints and shortcuts to Turbo Pascal enthusiasts. Interested in programming graphics? That's exactly what our current 'Graphics Techniques' series is for. Or assembly language programming for the 80x86 family? Try John Summerfield's 'The Attainment of Assembly.' Like to know about a multitasking Basic? See our August '87 issue. In fact — see *every* issue if you're interested in programming, because we are too!

And, our Apple, Amiga, Amstrad, Atari, C64, IBM, Macintosh and Microbee columnists all offer specific ideas for programming with their machines, of course.

Just because we stopped publishing Pocket Programs, didn't mean that readers stopped sending them in — we've been embarrassed by the deluge. So, the solution was obvious: tip them all into an all-new release of our *Bumper Book of Programs.*

Inside you'll find programs to amuse four year olds and programs that can be used in business; technical programs and games programs. They've been written by learners and by old hands, aged fifteen to seventy, living just about anyplace you can plug a computer in.

While most of them were written specifically for a particular machine, almost all of them are written in some version of good old Microsoft Basic. Which means — just because it's in the Amstrad section, doesn't mean you can't use it on your Vic 20 (with a little bit of modification). It's simply a matter of converting the peculiarities of your machine's Basic to Microsoft Basic — if you've got a word processor it's a quick search-and-replace. (Note: this won't work 100 per cent of the time — but finding out why it doesn't work on your machine is half the fun of computing.)

To help you get these programs running, we've prepared a Basic Conversion Chart that shows the Microsoft Basic equivalent of the Basic used on most popular (and not necessarily new) machines — you can convert MSX Basic programs to run on an Apple II (or vice versa), for example. If you need the Chart, simply send $4 (cheque or money order), to *Your Computer's Basic Chart, PO Box 227, Waterloo 2017 NSW.*

The biggest source of problems that reader's have had with the programs in earlier issues is fingers. So — here's a few tricks that we've found useful:

First, place a ruler under the line you're typing to mark your line. You don't want to start typing the wrong line part way through another, or skip a line, or type the same line (or lines) twice, all for the sake of a ruler.

Next, check the data in data statements very carefully, When you type in 'normal' commands, mistakes are fairly obvious. For example:

```
IB A>0 THEN ABROT
```

is a lot easier to correct than —

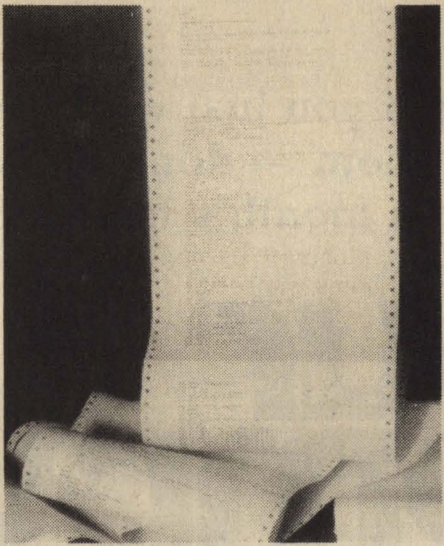
```
1000 DATA 143,233,233,087,323
```

A quick check is to count how many numbers should have been typed in and how many have been typed in. It's also very handy to have someone read the programs to you while you type them in — this is not only the quickest way, it's the most accurate. (It might just make your spouse, kid sister or father feel wanted, too.)

After you've typed in a program, it may return an error. When you find the line that's causing the error, don't just look at it and think, 'that seems OK.' Check it by reading it *backwards*, character by character — this is most efficient at picking up mistakes if you read it out loud while someone else reads your typing.

If you're still having problems finding an error, another trick is to put a trace on the execution to follow the path the program takes. This is particularly handy if your program goes into an endless loop. Many Basics have the command TRON, which will show the line numbers as the lines are being executed, which a great help. Another hint is to liberally sprinkle PRINT statements in the programs as you type them in. These can tell you all sorts of things about the program as it executes — for example, they can just say 'Hi, I'm at Line 100 and haven't crashed yet!' or, they can give the value of the variable in the line (found with TRON) that seems to be causing the crash: 'The value of C is 20.'

With these few debugging tools, you should be able to work out most of the problems you're likely to face (after all, all of these programs worked for the authors!). Of course, there's's always going to be that insidious, invisible bug that crawls into the work of everyone from unranked beginner to seasoned programmer. Sometimes things can get very complicated with computers, but far more often they are extremely simple. Often, the solution is to get a second opinion — an obvious mistake you've been trying to find for hours frequently hits a second person in the eye on the first read through.



But — the best advice anyone can give is to join a computer club or user group. Not only will you meet people with the same interest as yours, but you'll also have a source of expert (well, more experienced, anyway) knowledge that can be invaluable after you've spent a fruitless weekend trying to debug a five line program. We've included a complete listing of User Groups, and it's updated from time to time in *Your Computer*.

After you've tried some of the programs in this book, we hope you'll try your hand at writing your own — few things are more satisfying than your own work. After all why buy a database, when you can write your own (and you'll certainly learn a lot more!). One of the best ways to start learning is to experiment — try changing variables in a program to see what that does, for example.

Soon, you'll discover how easy it is to program simple games like Pong or Hangman . . . and you're on your way. *Starwars, lookout!* ☐

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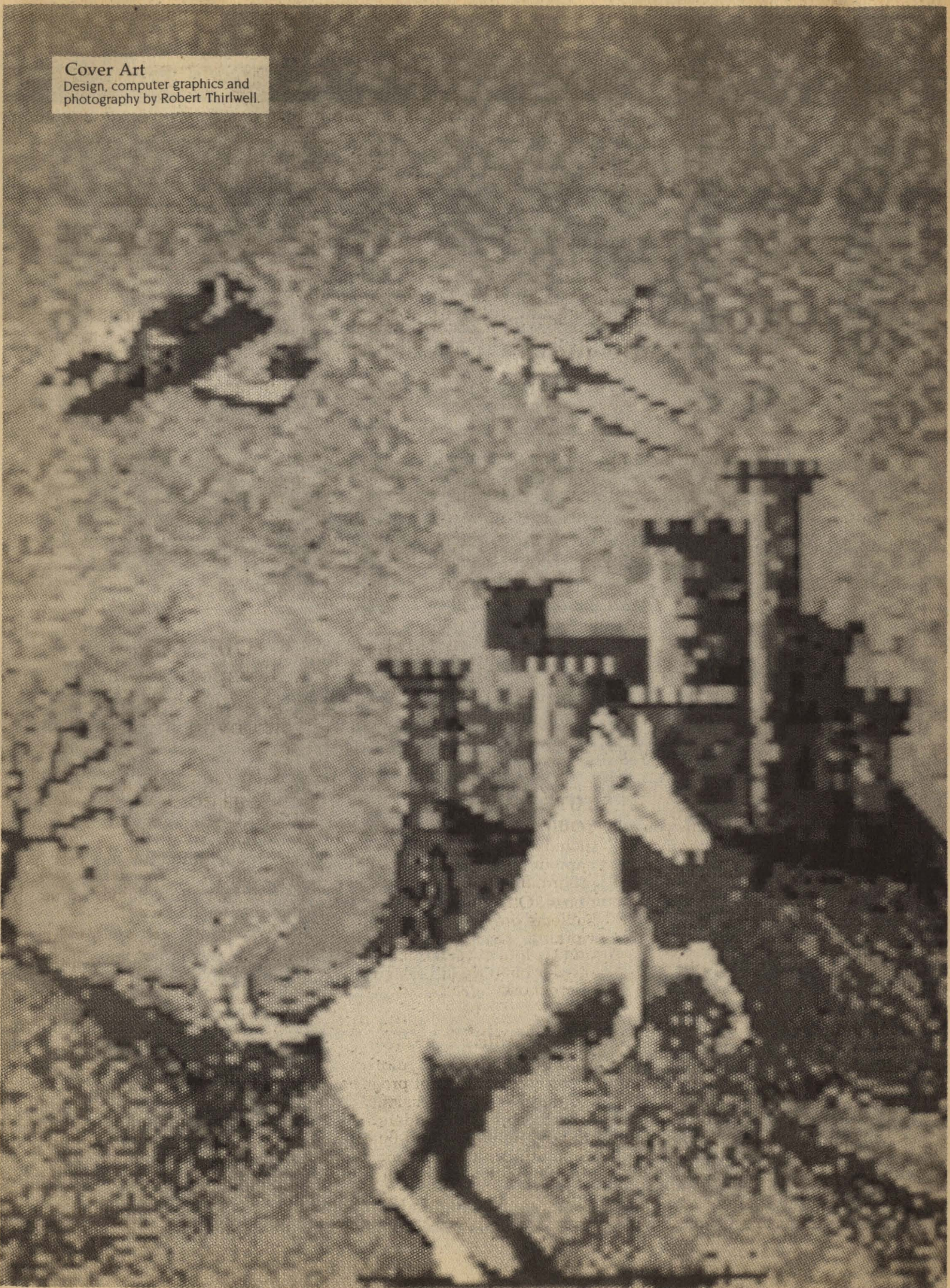

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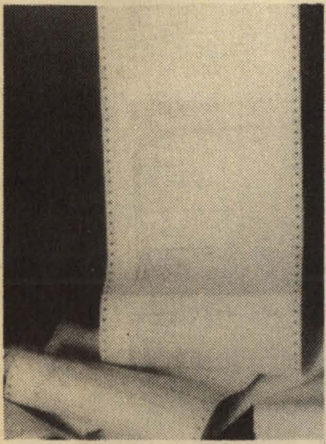


INVOICE.THR

This program can be used at work or home. Originally designed as an invoice or receipt maker, it may also be used to write an informed shopping list.

It is, of course, designed for one particular invoice style (not a bad style at that), but you will probably need to alter its format for your particular usage. For instance, if you intend to make shopping lists you will not need two copies of each list, and the address, name of business and dates would be irrelevant. I'll leave it up to you how you alter it to your style.

After typing in and saving, run the program. You will be asked on what date the order was received. The date may be entered in any form (for example: 3/4/86, 3rd April 1986, the first Thursday in April). The program does not check for any particular form. The next input is date sent. If you type nothing (just press Return), the default value is the received date.

The second section is where you chose your invoice products. The screen will display a page of your products at a time. As many pages as your memory will hold can be added to the program. Just alter the value of N in Line 110 and add your data to the end of program. N must be a multiple of 20 minus 1 (for example: 19, 39, 129). To move through the pages, the Return and Back Space keys can be used. Return moves you forward a page, Back Space back a page.

Once the page you require is on screen, type the letter which is beside the product you need on your invoice/shopping list.

```
00100 REM Invoice 3/2/86 Richard Larkin
00109 REM N is number of products: M number of entries per invoice
00110 N=79: M=63
00119 REM Increase string memory
00120 STRS(2048): SD 14
00130 S6$="                                                              "
00139 REM Variable to clear line
00140 S7$=S6$+CHR(13)
00145 REM Dimension arrays
00146 REM PO$(N,1) holds product names and costs
00147 REM O(N)=1 if product N is on invoice
00148 REM LO$(M) holds calculated lines of invoice
00149 REM P(M),Q2(M) products chosen and quantity of
00150 DIM PO(N,1),O(N),LO(M),P(M),Q2(M)
00159 REM Read product data
00160 FOR X=0 TO N: READ PO$(X,0),PO$(X,1): O(X)=0: NEXT X
00167 REM
00168 REM Input invoice information
00169 REM
00170 GOSUB 990: PRINT
00180 INPUT "Date (received)        : " DO$
00190 INPUT "Date (sent)            : " D1$;
00199 REM If no 'sent' date default to 'received' date
00200 IF D1$="": D1$=DO$: PRINT D1$ ELSE PRINT
00209 REM If '^' is entered then re-enter previous input
00210 IF D1$="^" THEN 180
00220 INPUT "Name of customer       : " AO$
00230 IF AO$="^" THEN 190
00240 INPUT "Number Street          : " A1$
00250 IF A1$="^" THEN 220
00260 INPUT "Suburb Postcode State  : " A2$
00270 IF A2$="^" THEN 240
00279 REM X is product pointer: L chosen products pointer
00280 X=0: L=0
00287 REM
00288 REM Find which products are on this invoice
00289 REM
00290 GOSUB 990: IF X<0: X=N-19 ELSE IF X>N-19: X=0
00299 REM Setup screen to display all relevant information
00300 CURS 56: PRINT "Page"X/20+1
00310 FOR Y=0 TO 9: CURS 1,Y+3: GOSUB 1010: NEXT Y
00320 FOR Y=10 TO 19: CURS 32,Y-7: GOSUB 1010: NEXT Y
00330 CURS 64: PRINT "Entries so far"L
00340 IF L=0 THEN 370
00350 IO$=PO$(P(L-1),0): IO$=IO$(;1,28): CURS 1,14
00360 PRINT "Last entry: Item ''"IO$"'', Quantity"Q2(L-1) S6$
00370 CURS 1,15: PRINT S7$"Type key corresponding to product purchased by custom
er."
00379 REM Input a product or command
00380 K=ASC(KEY)
00389 REM if DEL pressed then delete last entry
00390 IF K=127 AND L>0: L=L-1: O(P(L))=O(P(L))-1: GOTO 290
00399 REM if RET forward a page if BACK SPACE back a page
00400 IF K=13: X=X+20: GOTO 290 ELSE IF K=8: X=X-20: GOTO 290
00409 REM If ESC print the invoice
00410 IF K<>27 THEN 420 ELSE IF L=0: RUN ELSE 590
00419 REM Convert to upper case: Check value in correct range
00420 K=K-65+(K>90)*32: IF K<0 OR K>19 THEN 380
00430 K=K+X: IF PO$(K,0)<>"" THEN 480
00440 CURS 1,15: PRINT S7$;: INPUT "Product is" IO$
00450 PO$(K,0)=IO$(;1,38)
00460 CURS 1,15: PRINT S7$ PO$(K,0);: INPUT " costs? " IO$
00470 GOSUB 940: PO$(K,1)=IO$
00479 REM Find quantity to be invoiced
00480 CURS 1,15: PRINT S7$;: INPUT "Enter quantity purchased =" IO$
00489 REM If no input then default 1, if input 0 then no entry
00490 IF IO$="": IO$="1" ELSE IF VAL(IO$)=0 THEN 310
00499 REM if first time product chosen then skip next section
00500 IF O(K)=0 THEN 570
00509 REM A previous entry exists
00510 CURS 1,15: PRINT S7$ "Add to the previous entry,";
00519 REM Find the previous entry
00520 FOR I=0 TO L-1
00530 IF P(I)=K: I1$=PO$(K,0): PRINT Q2(I)" "I1$(;1,28)"?": NEXT*I 550
00540 NEXT I
00549 REM See if entries are to be combined
00550 I1$=KEY: IF I1$="N" OR I1$="n" THEN 570 ELSE IF I1$="y" OR I1$="Y" THEN 56
0 ELSE 550
00559 REM If combining add together entries
00560 Q2(I)=Q2(I)+VAL(IO$): GOTO 310
00569 REM Set up a new entry
00570 P(L)=K: Q2(L)=VAL(IO$): O(K)=O(K)+1
00580 L=L+1: IF L<M THEN 310
00587 REM
```

You will then be asked the quantity. The default value is one so if you just press Return, that's what you get. Entering 0 will cause the product to be unchosen, and it will not appear on the list. If you select a letter which does not have a product allocated to it you will be asked to name the product and its price. It will then remain on the list until the next invoice.

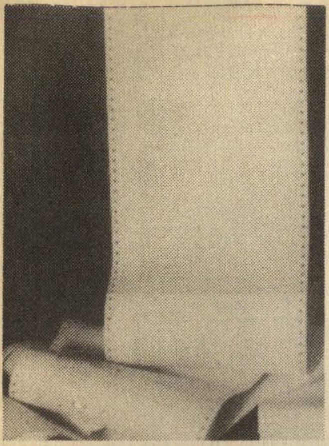
You may remove the entry described as Last Entry by pressing Del; this is for correction purposes. Products you have chosen so far for this invoice are underlined on the screen. If you rechoose one of these, you will be asked whether or not you wish this entry to be separate to the last entry of the same product.

The use of error correction and default values makes this program more convenient. It may sound complicated, but really it is quite simple.

For those of you intending to use the program for shopping lists, there is enough space in the Price Per Unit column to write in how much it actually cost. So you can update the program, as inflation makes older prices outdated.

Richard Larkin
Dee Why NSW

```
00588 REM Work out lines in invoice
00589 REM
00590 TO=0: FOR X=0 TO L-1
00600 Q0=Q2(X): P1=VAL(PO$(P(X),1)): SO=Q0*P1: TO=TO+SO
00610 IO$=STR(Q0): GOSUB 940: Q1$=IO$
00620 IO$=STR(SO): GOSUB 940: S1$=IO$
00630 I1$=S6$+Q1$: I=LEN(I1$): I1$=I1$(;I-8,I)+"  "
00640 I2$=S6$+PO$(P(X),1): I=LEN(I2$): I2$=I2$(;I-14,I)+"  "
00650 I3$=S6$+S1$: I=LEN(I3$): I3$=I3$(;I-9,I)
00660 IO$="  "+PO$(P(X),0)+S6$: IO$=IO$(;1,41)
00670 LO$(X)=IO$+I1$+I2$+I3$: NEXT X
00680 IO$=STR(TO): GOSUB 940: T1$=IO$
00690 T1$=S6$+T1$: I=LEN(T1$): T1$=T1$(;I-9,I)
00700 HO$="Customer's receipt": Y=0
00710 OUTL#1: LPRINT CHR(27) CHR(64);
00719 REM Print copy of invoice to Microbee Dot Matrix Printer
00720 IO$="Place the name of your Business Here!": X=40-LEN(IO$)/2
00730 FOR I=0 TO X: LPRINT " ";: NEXT I: LPRINT CHR(27) CHR(45) CHR(1) IO$ CHR(2
7) CHR(45) CHR(0)
00740 LPRINT \AO$\A1$\A2$\\"Order received     : "DO$\"Order sent on      : "D1$
00750 LPRINT\HO$
00760 LPRINT CHR(27) CHR(65) CHR(8)
00770 LPRINT CHR(188) [A38 181] CHR(177) [A10 181] CHR(177) [A16 181] CHR(177) [
A11 181] CHR(189)
00780 GOSUB 970: GOSUB 970: GOSUB 960
00790 LPRINT "  Description of purchase                      Quantity   Price per unit
   Sub-total"
00800 GOSUB 970: FOR X=0 TO L-1: GOSUB 980: GOSUB 970
00810 GOSUB 960: LPRINT LO$(X): NEXT X
00820 LPRINT CHR(190) [A38 181] CHR(176) [A10 181] CHR(176) [A16 181] CHR(175) [
A11 181] CHR(178)
00830 LPRINT [A67 32] CHR(182) [A11 32] CHR(182)
00840 GOSUB 960: LPRINT [A62 32] "Total  " T1$
00850 LPRINT [A67 32] CHR(190) [A11 181] CHR(191)
00860 LPRINT CHR(27) CHR(50)
00870 IF Y=1: LPRINT CHR(12): RUN
00879 REM These lines may be changed to meet your needs
00880 LPRINT "Information about new products you are bring out"
00890 LPRINT "in the near future can be placed in these lines to"
00900 LPRINT "attract the attention of your known customer."
00910 LPRINT "As many lines as you wish can be inserted."
00920 LPRINT "e.t.c"
00930 Y=1: LPRINT CHR(12);: HO$="Files receipt": GOTO 720
00933 REM
00934 REM Subroutines start here
00935 REM
00939 REM This makes IO$ into a number with two decimal places
00940 T1=VAL(IO$): IO$=STR(T1-FRACT(T1*100)/100)
00950 I=LEN(IO$)-2: IF IO$(;I,I)<>".": IO$=IO$+"0": GOTO 950 ELSE RETURN
00959 REM Reverse line feed
00960 LPRINT CHR(27) CHR(106) CHR(24);: RETURN
00969 REM Parts of invoice graphics
00970 LPRINT CHR(182) [A38 32] CHR(182) [A10 32] CHR(182) [A16 32] CHR(182)
 32] CHR(182): RETURN
00980 LPRINT CHR(179) [A38 181] CHR(175) [A10 181] CHR(175) [A16 181] CHR(17
A11 181] CHR(178): RETURN
00989 REM Clears screen prints heading
00990 CLS: UNDERLINE: PRINT "Invoice Maker - Richard Larkin."
01000 NORMAL: RETURN
01009 REM Print product name, underlined if it has been chosen
01010 PRINT CHR(Y+65)") ";: IF O(X+Y)>0: UNDERLINE
01020 IO$=PO$(X+Y,0): PRINT IO$(;1,28): NORMAL: RETURN
01025 REM
01026 REM Product data must be in the form
01027 REM "PRODUCT","999999.99"
01028 REM where 999999.99 is the cost as a string
01029 REM
01030 REM Page 1
01040 DATA "Chair","39.95","Desk","120.00"
01050 DATA "","","","","","","","","","","","","","","","","","","","","","","
"","","","","","","","","","","","",""
01060 REM Page 2
01070 DATA "Nuclear Reactor",".07","A-Bomb","1.25"
01080 DATA "","","","","","","","","","","","","","","","","","","","","","","
"","","","","","","","","","","","",""
01090 REM Page 3
01100 DATA "Fish (one kilo)","7.25","Prawns (one kilo bag)","16.00"
01110 DATA "","","","","","","","","","","","","","","","","","","","","","","
"","","","","","","","","","","","",""
01120 REM Page 4
01130 DATA "Bread","1.05","Baked beans",".97"
01140 DATA "Toilet paper (six pack)","3.99","Envelopes","3.00"
01150 DATA "","","","","","","","","","","","","","","","","","","","","","","
"","","","","","","","",""
```



```
                      Place the name of your Business Here!

Your Computer
140 Joynton Ave
Waterloo 2017 NSW

Order received     : 1st April 1986
Order sent on      : 1st April 1986

Customer's receipt

| Description of purchase        | Quantity | Price per unit | Sub-total |
|--------------------------------|----------|----------------|-----------|
| Chair                          |   200.00 |          39.95 |   7990.00 |
| Desk                           |     1.00 |         120.00 |    120.00 |
| A-Bomb                         |    16.00 |           1.25 |     20.00 |
| Fish (one kilo)                |     0.50 |           7.25 |      3.62 |
| Bread                          |     1.00 |           1.05 |      1.05 |
| Baked beans                    |   144.00 |            .97 |    139.68 |
| Toilet paper (six pack)        |   288.00 |           3.99 |   1149.12 |
| Envelopes                      |     1.00 |           3.00 |      3.00 |
| Sales Tax                      |     1.00 |        5000.00 |   5000.00 |
| Postage                        |     1.00 |           0.33 |      0.33 |
                                                       Total |  14426.80 |

Information about new products you are bring out
in the near future can be placed in these lines to
attract the attention of your known customer.
As many lines as you wish can be inserted.
e.t.c

                      Place the name of your Business Here!

Your Computer
140 Joynton Ave
Waterloo 2017 NSW

Order received     : 1st April 1986
Order sent on      : 1st April 1986

Files receipt

| Description of purchase        | Quantity | Price per unit | Sub-total |
|--------------------------------|----------|----------------|-----------|
| Chair                          |   200.00 |          39.95 |   7990.00 |
| Desk                           |     1.00 |         120.00 |    120.00 |
| A-Bomb                         |    16.00 |           1.25 |     20.00 |
| Fish (one kilo)                |     0.50 |           7.25 |      3.62 |
| Bread                          |     1.00 |           1.05 |      1.05 |
| Baked beans                    |   144.00 |            .97 |    139.68 |
| Toilet paper (six pack)        |   288.00 |           3.99 |   1149.12 |
| Envelopes                      |     1.00 |           3.00 |      3.00 |
| Sales Tax                      |     1.00 |        5000.00 |   5000.00 |
| Postage                        |     1.00 |           0.33 |      0.33 |
                                                       Total |  14426.80 |
```

PROCAT

Can you protect the careless caterpillars from the falling sand grains? Move your cross hairs around the screen, which warps from top to bottom and left to right. Shoot the sand grains before they land on the caterpillars, which casually stroll below, unaware of the impending danger.

In Round one, only one caterpillar at a time travels across the screen, but as the rounds increase so do the number of

```
00100 REM PROCAT 27/1/86 Richard Larkin.
00109 REM Load in the machine code routines
00110 C=0: FOR X=0 TO 59: READ Y: POKE X,Y: C=C+Y: NEXT X
00120 IF C<>5965: PRINT "DATA ERROR !": STOP
00129 REM Load PCG data
00130 FOR X=-1008 TO -673: READ Y: POKE X,Y: NEXT X
00140 FOR X=-1536 TO -1521: POKE X,0: NEXT X
00150 POKE -2048,170: POKE -2017,170: FOR X=-2047 TO -2018: POKE X,0: NEXT X
00159 REM Clear variables and dimension arrays
00160 CLEAR: DIM C(3,1),S(15,1),A1(1)
00169 REM Character strings for catterpiller animation
00170 A1$(0)="ABCDEF": A1$(1)="GHIJK "
00179 REM Setup screen
00180 CLS: NORMAL: CURS 20,1: PRINT "CATTERPILLAR PROTECTOR."
00190 CURS 13,2: PRINT "Copyright (C) 1986 - by Richard Larkin"
00200 CURS 22,4: PRINT "Score        Round 1"
00210 CURS 17,5: PRINT "Catterpillars: Dead    Safe"
00220 FOR X=-3136 TO -3073: POKE X,128: POKE X-640,129: NEXT X
```

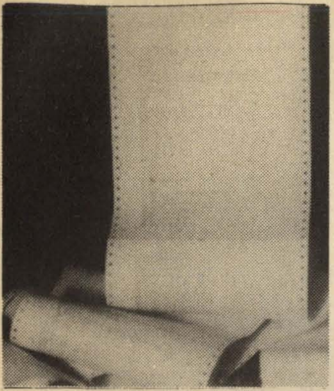
caterpillars. See if you can get 30 caterpillars safely from one side to the other. Four dead caterpillars and you are finished.

The machine code routine that the game uses allows multiple key checking. Another routine quickly prints all of the sand grains.

Use A, Z, < and > to move cross hairs and the Space bar to fire. Procat is not as easy as it looks.

Richard Larkin
Dee Why NSW

```
00229 REM Place variables at start values
00230 A=0: B=0: D=0: E=0: F=0: G=2: L=0: M=0: O=0: P=0: Q=1: R=1: X=544
00237 REM Move L,M pointers along one space
00238 REM L points to grain of sand to be moved
00239 REM M points to catterpillar to move
00240 L=(L+1 AND 15): M=(M+1 AND 3)
00246 REM Decrement counters
00247 REM D slows down firing speed
00248 REM E stops lumps of sand falling
00249 REM F prevents catterpillars walking on top of each other
00250 IF D<>0: D=D-1
00260 IF E<>0: E=E-1
00270 IF F<>0: F=F-1
00279 REM Update screen information
00280 NORMAL: CURS 218: PRINT P: CURS 291: PRINT A: CURS 299: PRINT B: PCG
00289 REM See if catterpillar to be moved is "alive"
00290 IF C(M,0)=0 THEN 360
00299 REM Move catterpillar
00300 CURS C(M,0): PRINT A1$(C(M,1)): C(M,1)=1-C(M,1)
00310 IF C(M,1)<>0 THEN 360
00319 REM Is catterpillar "safe"
00320 C(M,0)=C(M,0)-1: IF C(M,0)<>895 THEN 360
00330 CURS 895: PRINT "      ": C(M,0)=0: P=P+10*Q: B=B+1: PLAY 8;2: G=G-1
00340 IF B=30: PLAY 1;2;4;8;16: GOTO 520
00350 IF G=0: Q=Q+1: G=Q*Q: R=R+1: PLAY 5;20,4;5,4;20: NORMAL: CURS 230: PRINT R
: PCG
00359 REM See if sand grain has to be moved
00360 IF S(L,0)=0 THEN 420
00370 S(L,1)=206+(S(L,1)-4 AND 7): CURS S(L,0): PRINT "  "
00380 S(L,0)=S(L,0)+64: IF S(L,0)<896 THEN 420
00389 REM See if sand grain has hit catterpillar
00390 FOR O=0 TO 3
00400 IF S(L,0)>C(O,0)-2 AND S(L,0)<C(O,0)+6: A=A+1: I=USR(12): PLAY 4,2: CURS C
(O,0): PRINT "      ": C(O,0)=0: IF A=4: PLAY 16;8;4;2;1: GOTO 530
00410 NEXT O: CURS S(L,0): PRINT "  ": S(L,0)=0
00419 REM Has player fired
00420 IF NOT(USR(0,55) AND D=0) THEN 450
00429 REM Check if player has shot down sand grain
00430 FOR O=0 TO 15: IF X=S(O,0): S(O,0)=0: P=P+Q: PLAY 24
00440 NEXT O: D=2
00449 REM USR routine print all the sand grains on the screen
00450 CURS X: PRINT "  ": I=USR(12)
00459 REM Calculate players new position
00460 X=X+(USR(0,44)-USR(0,46))*2+(USR(0,1)-USR(0,26))*64
00470 X=(X/64-6 AND 7)*64+(X AND 63)+384: CURS X: PRINT "LM"
00479 REM If counter E is zero then try to add an extra sand grain
00480 IF E=0: O=INT(RND*16): IF S(O,0)=0: S(O,0)=INT(RND*24)*2+392: S(O,1)=206+I
NT(RND*4)*2: E=9-Q*2
00489 REM If F zero try to put in a catterpillar
00490 IF F=0: O=INT(RND*4): IF O<Q: IF C(O,0)=0: C(O,0)=952: F=48+INT(RND*8)*Q*Q
00499 REM A random element, can make sand fall quicker
00500 IF RND>.99: L=L-4
00510 GOTO 240
00519 REM Print messages to inform of game outcome
00520 NORMAL: CURS 26,8: PRINT "Well done !!": CURS 16,9: PRINT "All catterpilla
rs across safely.": GOTO 540
00530 NORMAL: CURS 23,8: PRINT "You need practice?": CURS 19,9: PRINT "You have
let too many die."
00540 CURS 21,10: PRINT "Any key to play again.": PLAY 0,16: I=USR(32774): GOTO
160
00549 REM Machine code data
00550 DATA 121,205,10,165,1,0,0,192,1,255,255,201
00560 DATA 221,33,212,6,221,110,0,221,102,1,17,6,0,25,229,221,225,6,16,221,110,0
,221,102,1,124,181,40,11,17,0,240,25,221,126,2,119,35,60,119,17,4,0,221,25,16,22
8,201
00569 REM PCG catterpillar
00570 DATA 0,0,1,2,15,48,64,76,146,140,128,64,64,48,15,0
00580 DATA 112,128,28,96,128,192,32,32,16,24,20,58,45,196,3,1
00590 DATA 0,0,0,0,0,0,0,0,0,0,0,0,255,162,20,255
00600 DATA 0,0,0,0,0,0,0,0,0,0,0,0,255,138,81,255
00610 DATA 0,0,0,0,0,0,0,0,0,0,0,0,255,138,81,255
00620 DATA 0,0,0,0,0,0,0,0,2,6,10,10,244,36,72,240
00630 DATA 0,0,0,1,2,15,48,64,76,146,140,128,64,64,48,15
00640 DATA 0,112,128,28,96,128,192,32,33,18,20,31,60,56,241,30
00650 DATA 0,0,3,14,22,38,127,226,196,120,240,224,64,128,0,0
00660 DATA 0,0,192,112,120,20,242,57,31,4,2,1,0,0,0,0
00670 DATA 0,0,0,0,0,0,0,0,128,192,96,80,232,36,26,7
00679 REM PCG for cross hairs
00680 DATA 128,64,32,16,0,0,0,0,0,0,0,0,16,32,64,128
00690 DATA 1,2,4,8,0,0,0,0,0,0,0,0,8,4,2,1
00699 REM PCG for sand grains
00700 DATA 0,0,0,3,4,8,16,63,32,32,32,32,63,0,0,0
00710 DATA 0,0,0,254,6,10,18,226,34,36,40,48,224,0,0,0
00720 DATA 0,0,0,63,32,32,32,32,63,16,8,4,3,0,0,0
00730 DATA 0,0,0,224,48,40,36,34,226,18,10,6,254,0,0,0
00740 DATA 0,0,0,127,96,80,72,71,68,36,20,12,7,0,0,0
00750 DATA 0,0,0,192,32,16,8,252,4,4,4,4,252,0,0,0
00760 DATA 0,0,0,7,12,20,36,68,71,72,80,96,127,0,0,0
00770 DATA 0,0,0,252,4,4,4,4,252,8,16,32,192,0,0,0
```



CURSOR.ONE

Cursor is a machine code routine. It allows you one of the more useful functions of other computers, a copy cursor.

A copy cursor is available on many computers (Apple, Amstrad, BBC and so on). You can use it to cut down on typing, and vastly improve your editing abilities. It is, in fact, a second cursor which may be moved around the screen.

Place your finger on the Tab key and while you hold it down, W, Z, A and S will move copy cursor up, down, left and right respectively. When you have located a section of the screen you wish copied, press Esc. Each press will copy one character from beneath the copy cursor and enter it just as though you typed it in.

Cursor.One can be useful when typing similar lines in a program. Also, it may be used to combine program lines to conserve space and increase speed. You may use it instead of the Edit command; just list the line so you can add and remove large or small chunks of the line with a lot less fuss.

The program comes in three versions: a source file for those with EDASM, so they may alter the routine to suit their needs and two Basic programs, one for 16 Kbyte and one for 32 Kbyte. The Basic version should be typed, run and then saved. Preferably, use monitor to save the routine, type —

D "CURSOR" M 3F80 3FF3 3F80
(for the 16 Kbyte version)
D "CURSOR" M 7F80 7FF3 7F80
(for the 32 Kbyte version)

Now whenever you feel the urge you may load Cursor.One and it will automatically turn itself on.

Richard Larkin
Dee Why NSW

```
00100 REM CURSOR (16k Basic Version) 27/1/86 Richard Larkin
00110 C=0: FOR X=16256 TO 16371: READ Y: POKE X,Y: C=C+Y: NEXT X
00120 IF C=12376: I=USR(16256) ELSE PRINT "Data error!"
00130 STOP
00140 DATA 33,128,63,34,160,0,33,141,63,34,194,0,201,205,233,163
00150 DATA 192,245,254,9,40,6,254,27,40,74,241,201,17,0,0,62
00160 DATA 23,205,10,165,32,3,17,192,255,62,26,205,10,165,32,3
00170 DATA 17,64,0,62,1,205,10,165,32,3,17,255,255,62,19,205
00180 DATA 10,165,32,3,17,1,0,42,244,63,124,254,240,56,6,254
00190 DATA 244,48,2,24,3,42,11,1,203,190,25,34,244,63,203,254
00200 DATA 241,254,0,201,241,42,244,63,126,203,191,119,35,34,244,63
00210 DATA 203,254,191,201
```

```
00100 REM CURSOR (32k Basic Version) 27/1/86 Richard Larkin
00110 C=0: FOR X=32640 TO 32755: READ Y: POKE X,Y: C=C+Y: NEXT X
00120 IF C=12760: I=USR(32640) ELSE PRINT "Data error!"
00130 STOP
00140 DATA 33,128,127,34,160,0,33,141,127,34,194,0,201,205,233,163
00150 DATA 192,245,254,9,40,6,254,27,40,74,241,201,17,0,0,62
00160 DATA 23,205,10,165,32,3,17,192,255,62,26,205,10,165,32,3
00170 DATA 17,64,0,62,1,205,10,165,32,3,17,255,255,62,19,205
00180 DATA 10,165,32,3,17,1,0,42,244,127,124,254,240,56,6,254
00190 DATA 244,48,2,24,3,42,11,1,203,190,25,34,244,127,203,254
00200 DATA 241,254,0,201,241,42,244,127,126,203,191,119,35,34,244,127
00210 DATA 203,254,191,201
```

```
ADDR   CODE   LINE   LABEL  MNEM    OPERAND

              00100 ; COPY 27/1/86 RICHARD LARKIN.
              00110 ; Change ADDRSS to 07F80H if you have a 32k machine
3F80          00120 ADDRSS  EQU     03F80H
3F80          00130         ORG     ADDRSS
3F80 21803F   00140 START   LD      HL,ADDRSS
              00150 ; Lower memory pointer, so routine isn't corrupted
3F83 22A000   00160         LD      (0A0H),HL
3F86 218D3F   00170         LD      HL,KEYCHK
              00180 ; Change keyboard jump vector to this routine
3F89 22C200   00190         LD      (0C2H),HL
3F8C C9       00200         RET
              00210 ; Call routine to find if key is being pressed
3F8D CDE9A3   00220 KEYCHK  CALL    0A3E9H
              00230 ; If key is not being pressed return to basic control
3F90 C0       00240         RET     NZ
3F91 F5       00250         PUSH    AF
3F92 FE09     00260         CP      9
              00270 ; If TAB is pressed goto cursor move routine
3F94 2806     00280         JR      Z,MVCUR
3F96 FE1B     00290         CP      27
              00300 ; If ESC is pressed goto copy routine
3F98 284A     00310         JR      Z,COPY
              00320 ; If irrelevant keys are being pressed return to basic
3F9A F1       00330         POP     AF
3F9B C9       00340         RET
              00350 ; This routine finds whether cursor must be moved
              00360 ; up,down,left or right
              00370 ; It then moves the cursor
3F9C 110000   00380 MVCUR   LD      DE,0
3F9F 3E17     00390         LD      A,23
3FA1 CD0AA5   00400         CALL    0A50AH
3FA4 2003     00410         JR      NZ,NOTUP
3FA6 11C0FF   00420         LD      DE,-64
3FA9 3E1A     00430 NOTUP   LD      A,26
3FAB CD0AA5   00440         CALL    0A50AH
3FAE 2003     00450         JR      NZ,NOTDWN
3FB0 114000   00460         LD      DE,64
3FB3 3E01     00470 NOTDWN  LD      A,1
3FB5 CD0AA5   00480         CALL    0A50AH
3FB8 2003     00490         JR      NZ,NOTLFT
3FBA 11FFFF   00500         LD      DE,-1
3FBD 3E13     00510 NOTLFT  LD      A,19
3FBF CD0AA5   00520         CALL    0A50AH
3FC2 2003     00530         JR      NZ,NOTRGT
3FC4 110100   00540         LD      DE,1
3FC7 2AF43F   00550 NOTRGT  LD      HL,(CURS1)
3FCA 7C       00560         LD      A,H
3FCB FEF0     00570         CP      0F0H
```

```
3FCD 3806      00580            JR      C,BOUNDS
3FCF FEF4      00590            CP      OF4H
3FD1 3002      00600            JR      NC,BOUNDS
3FD3 1803      00610            JR      INTRP
               00620 ; If cursor isn't on screen
               00630 ; it is placed on basic's cursor position
3FD5 2A0B01    00640 BOUNDS     LD      HL,(10BH)
3FD8 CBBE      00650 INTRP      RES     7,(HL)
3FDA 19        00660            ADD     HL,DE
3FDB 22F43F    00670            LD      (CURS1),HL
3FDE CBFE      00680            SET     7,(HL)
3FE0 F1        00690            POP     AF
3FE1 FE00      00700            CP      0
3FE3 C9        00710            RET
               00720 ; This routine finds character under cursor
               00730 ; and then places it on basic's cursor position
3FE4 F1        00740 COPY       POP     AF
3FE5 2AF43F    00750            LD      HL,(CURS1)
3FE8 7E        00760            LD      A,(HL)
3FE9 CBBF      00770            RES     7,A
3FEB 77        00780            LD      (HL),A
3FEC 23        00790            INC     HL
3FED 22F43F    00800            LD      (CURS1),HL
3FF0 CBFE      00810            SET     7,(HL)
3FF2 BF        00820            CP      A
3FF3 C9        00830            RET
0002           00840 CURS1      DS      2
0000           00850            END
00000 Total errors

INTRP    3FD8     BOUNDS  3FD5     CURS1    3FF4     NOTRGT   3FC7
NOTLFT   3FBD     NOTDWN  3FB3     NOTUP    3FA9     COPY     3FE4
MVCUR    3F9C     KEYCHK  3F8D     START    3F80     ADDRSS   3F80
```

STARS.SEV

All aboard . . . Come for the first manned space flight beyond the solar system, to the distant star cluster named, 'Distant Star Cluster.' This program takes you into the depths of space and time heading into the middle of a star cluster which you always get closer to but never seem to reach. It simulates stars of different colours and brightness flying past as you head toward the cluster at the speed of light.

You can have any amount of stars in the cluster that you want (providing you don't go over the memory limit) by simply changing the value of the variable 'star'.

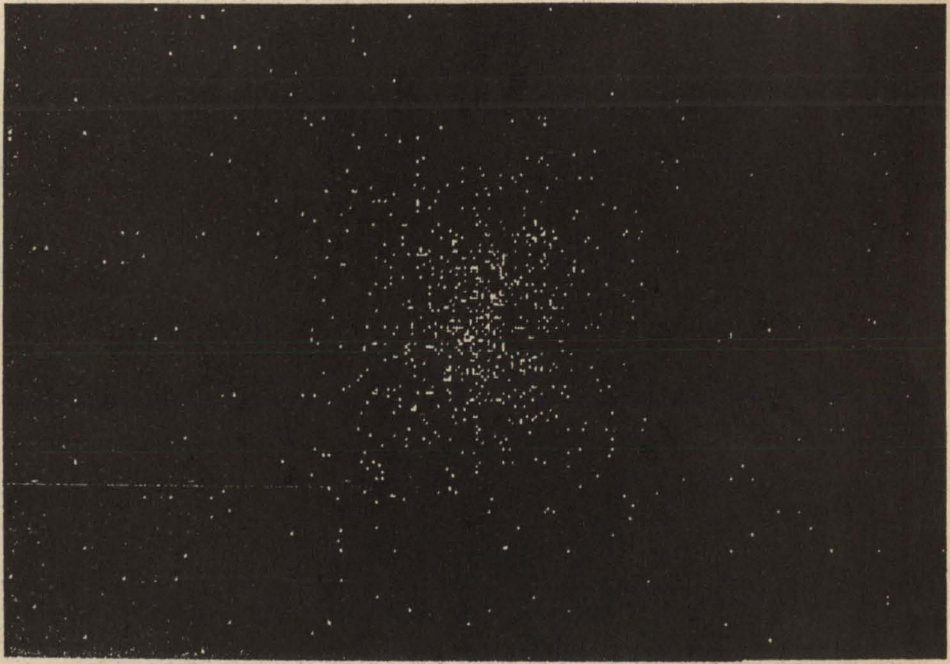
The effect is created by a loop which contains the star co-ordinate and its direction continuously having the same number of stars on the screen given by the value of star.

Experiment with different numbers of stars. The result can be quite spectacular after a few screens.

M. Kostecki & P. Vermeer
Elizabeth Park SA

```
10 REM Star Travel
20 REM Miroslav Kostecki Dec'86
30 '
40 'setup screen & data
50 DEFINT a-z
60 MODE 1
70 INK 0,0: BORDER 0
80 INK 1,26: INK 2,13
90 ORIGIN 320,200
100 stars=30
110 DIM a(stars),b(stars),c(stars)
120 DIM e(stars),f(stars),a1(stars),b1(s
tars)
130 FOR i=1 TO stars
140  GOSUB 340
150 NEXT i
160 '
170 'calculate movement
180 FOR i=1 TO stars
190  a1(i)=a(i): b1(i)=b(i)
200  a(i)=a(i)+e(i)
210  e(i)=e(i)*1.1
220  b(i)=b(i)+f(i)
230  f(i)=f(i)*1.1
240  IF ABS(b(i)\10)>200 OR ABS(a(i)\10)
>320 THEN GOSUB 340
250 NEXT i
260 'move to new position
270 FOR i=1 TO stars
280  PLOT a1(i)\10,b1(i)\10,0
290  PLOT a(i)\10,b(i)\10,c(i)
300 NEXT i
310 GOTO 180
320 '
```

```
330 'setup a star
340 a(i)=0: b(i)=0
350 e(i)=RND*200-100: f(i)=RND*200-100
360 IF ABS(e(i))+ABS(f(i))<100 THEN c(i)
=2 ELSE c(i)=1
370 IF RND>0.5 THEN c(i)=INT(RND*2)+1
380 RETURN
```



CONDENSER

If you're like me you love colours in programs, but are put off mode by the character size. So you just compromise and use mode 1 which has only four colours. Well, I don't believe in compromising with computers. You're the boss, not it. And it should stay that way. Therefore, I produced a program called the Condenser, which condenses the characters down to the next mode, and in the case of mode 2, I just halved the characters size.

This program has many uses for the programmer and is great for the graphics enthusiast with its full use of colours.

If you like cramming a lot of information onto a screen, Condenser is just for you. You can put twice as many characters on screen as usual in any mode.

If has proved very useful in programming and we think you'll find it will do the same for you.

M. Kostecki & P. Vermeer
Elizabeth Park SA

```
100 ' ### Character Condenser ###
110 ' Miroslav Kostecki  18.12.86
120 '
130 SYMBOL AFTER 0
140 MODE 1
150 PRINT
160 PRINT "Normal characters;"
170 a$="0123456789ABCDEFGHIJKLMNOPQRSTUV
WXYZ"
180 PRINT a$
190 PRINT
200 PRINT "Condensed characters;"
210 GOSUB 280
220 MOVE 100,200: TAG
230 GOSUB 680' to print a$ as condensed
at 100,200
240 SYMBOL AFTER 255
250 '
260 END
270 '
280 ' numbers
290 SYMBOL 48,4,10,10,10,10,10,4
300 SYMBOL 49,4,12,4,4,4,4,14
310 SYMBOL 50,4,10,2,4,8,10,14
320 SYMBOL 51,4,10,2,4,2,10,4
330 SYMBOL 52,8,10,10,10,14,2,2
340 SYMBOL 53,14,10,8,12,2,2,12
```

```
350 SYMBOL 54,4,10,8,12,10,10,4
360 SYMBOL 55,14,10,2,2,4,4,4
370 SYMBOL 56,4,10,10,4,10,10,4
380 SYMBOL 57,4,10,10,6,2,10,4
390 ' capitals
400 SYMBOL 65,4,14,10,10,14,10,10
410 SYMBOL 66,12,10,10,12,10,10,12
420 SYMBOL 67,4,10,8,8,8,10,4
430 SYMBOL 68,12,10,10,10,10,10,12
440 SYMBOL 69,14,8,8,12,8,8,14
450 SYMBOL 70,14,8,8,12,8,8,8
460 SYMBOL 71,4,10,8,8,10,10,6
470 SYMBOL 72,10,10,10,14,10,10,10
480 SYMBOL 73,14,4,4,4,4,4,14
490 SYMBOL 74,6,2,2,2,10,10,4
500 SYMBOL 75,10,10,4,12,4,10,10
510 SYMBOL 76,8,8,8,8,8,8,14
520 SYMBOL 77,10,14,4,10,10,10,10
530 SYMBOL 78,10,10,12,6,10,10,10
540 SYMBOL 79,4,10,10,10,10,10,4
550 SYMBOL 80,12,10,10,12,8,8,8
```

```
560 SYMBOL 81,4,10,10,10,10,10,6
570 SYMBOL 82,12,10,2,12,4,10,10
580 SYMBOL 83,4,10,8,4,2,10,4
590 SYMBOL 84,14,4,4,4,4,4,4
600 SYMBOL 85,10,10,10,10,10,10,4
610 SYMBOL 86,10,10,10,0,10,14,4
620 SYMBOL 87,10,10,10,10,4,14,10
630 SYMBOL 88,10,14,4,4,14,10,10
640 SYMBOL 89,10,10,10,14,4,4,4
650 SYMBOL 90,14,10,2,4,8,10,14
660 RETURN
670 '
680 REM  Put to screen a$ at gr cursor
690 '
700 GRAPHICS PEN ,1
710 l=LEN(a$)
720 FOR i=1 TO l
730 PRINT MID$(a$,i,1);
740 MOVER -8,0
750 NEXT i
760 RETURN
```

MATCH.FIV

This program is great for the teacher or just for entertainment — it can be used for matching almost anything you can think of, such as opposite words, animals and their young, morse code and letters, or if you're good enough, even computers and their bench-test speeds. In this example, there is a list of 23 countries with their capital cities. This is very good for the school teacher who needs copies of a test for his or her class. And, the kids at home can have good fun while learning something at the same time.

The screen splits into two sections. It prints the countries on the left side and their capital cities on the right. An arrow points to a country and another continuously moving arrow moves down past the cities at a rapid rate. You have to be quick to press a key, at the brief moment when the arrow is in alignment with the city. Your score is calculated by how many presses of the key it took you to go through all the countries and cities. There is also a timer added so you can try to beat the record score.

P. Vermeer & M. Kostecki
Elizabeth Park SA

```
5 '          ### MATCH ###
6 ' Miroslav Kostecki & Bill Jolly
7 '          December 1986
10 MODE 1
20 BORDER 1
30 PEN 0:INK 0,15
40 PEN 2:INK 2,0
50 PEN 1 :INK 1,0
60 DATA  01 Russia,02 Germany,03 France,
 04 USA,05 Australia,06 England,07 New Z
ealand,08 Eire,09 Holland,10 Norway,11 I
taly,12 Youg
oslavia,13 Switzerland,14 China,15 Japan
,16 Finland,17 India,18 Greece,19 Israel
,20 Egypt,21 Kenya,22 Canada,23 spain

70 DATA 01 Moscow,02 Berlin,03 Paris,04
Washington,05 Canberra,06 London,07 Auck
land,08 Dublin,09 Rotterdam,10 Oslo,11 R
ome,12 Belgr
ade,13 Bonn,14 Peking,15 Tokyo,16 Helsin
ki,17 Bombay,18 Athens,19 Jerusalem,20 C
airo,21 Nairobi,22 Ottawa,23 Madrid
80 '
90 DIM countries$(23),capitals$(23)
95 s=0
100 FOR d=1 TO 23
110 READ countries$(d)
120 NEXT d
130 FOR t=1 TO 23
140 READ capitals$(t)
150 NEXT t
160 '
170 REM rnd countries
180 nl=1
190 DIM picked(23),temp$(23)
200 c=INT(RND*23+1)
210 IF  picked(c)= 1 THEN GOTO 200
```

```
220 temp$(nl)= countries$(c)
230 nl=nl+1
240 picked(c)=1
250 IF nl=24 THEN  GOTO 270
260 GOTO 200
270 FOR loop=1 TO 23
280 NEXT loop
290 '
300 b=1
310 DIM selected (23),tem$(23)
320 t=INT(RND*23+1)
330 IF selected (t)=1 THEN GOTO 320
340 tem$(b)=capitals$(t)
350 b=b+1
360 selected(t)=1
370 IF b=24 THEN GOTO 390
380 GOTO 320
390 FOR  loop=1 TO 23
400 PRINT TAB(5);
410 PRINT MID$(temp$(loop),4,20);
420 PRINT TAB(25);
430 PRINT MID$(tem$(loop),4,20)
440 NEXT loop
450 MOVE 300,0
460 MOVE 310,0
470 DRAW 310,400,13
480 '
485 count =0
490 ERASE picked
500 DIM picked(23)
510 t = INT(RND*23+1)
520 IF picked (t)= 1 THEN GOTO 510
525 count =count +1
530 '
540 FOR a =1 TO 23
550 LOCATE 3,a
560 PRINT " "
570 NEXT a
580 LOCATE 3,t
590 PRINT CHR$(243);
600 '
610 FOR a = 1 TO 23
620 LOCATE 23,a
630 PRINT CHR$(243);
640 FOR d= 1 TO 75
645 IF NOT INKEY$= "" THEN GOTO 700
650 NEXT d
660 LOCATE 23,a
670 PRINT " "
680 NEXT a
690 GOTO 610
700 '
701 s=s+1
710 IF NOT VAL(temp$(t))=VAL(tem$(a)) TH
EN SOUND 1,2000,20:GOTO 650
715 SOUND 1,50,10
720 LOCATE 5,t
730 PEN 2:INK 2,21
740 PRINT MID$(temp$(t),4,20)
750 LOCATE 25,a
760 PRINT MID$(tem$(a),4,20)
765 PEN 1
770 picked (t)=1
772 LOCATE 23,a
774 PRINT " "
780 IF count <23 THEN  510
785 LOCATE 12,24
830 PRINT "your score was" s:IF s=23 THE
N PRINT "excellant"
835 IF s>23 AND s<30 THEN PRINT"good try
"
836 IF s>30 AND s<50 THEN PRINT "try aga
in"
840 GOTO 840
```

PERSON.FOU

The day of the computer shrink is close at hand. And as it gets nearer, you will find many programs about psychology popping up from everywhere. This entertaining program should prove interesting to your guests, while providing them with a few laughs also.

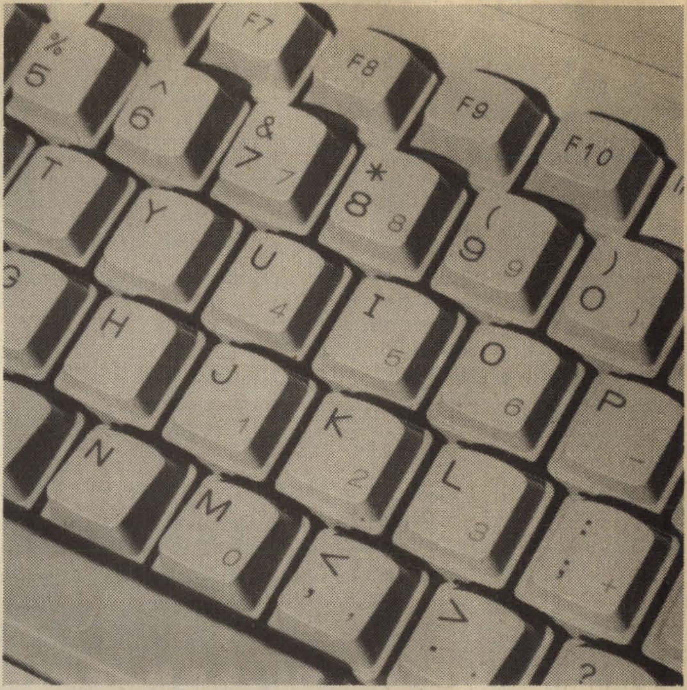
Three verses are cited with a list of interpretations. You must pick the interpretation that best fits the verse, showing innermost psychological traits. Once you've determined the interpretations, you get a run-down of your personality.

This program is based on psychological research but don't take it too seriously. However, computer shrinks have already been used on patients giving an overall psychological analysis.

M. Kostecki & P. Vermeer
Elizabeth Park SA

```
100 ' ### Personality Test ###
110 ' #    Adapted by...       #
120 ' # Paul Vermeer ;Dec'86 #
130 '
140 MODE 2: BORDER 1: INK 1,3: INK 0,10
150 MOVE 0,0: DRAW 639,0: DRAW 639,399:
DRAW 0,399: DRAW 0,0
160 WINDOW #0,3,79,3,24
170 PRINT TAB(15);"PERSONALITY TEST"
180 PRINT
190 PRINT "This personality test is not
comprehensive,"
200 PRINT " but can been used to find yo
ur general character."
210 PRINT
220 PRINT " INSTRUCTIONS:  Three verses
will be printed."
230 PRINT "Following each verse will be
a list of interpretations."
240 PRINT "Input the corresponding numbe
r for the interpretation"
250 PRINT " you think is the best."
260 PRINT,,: INPUT "Type 'ENTER' when re
ady.",a
```

```
270 CLS
280 PRINT "A book of verses underneath t
he bough,"
290 PRINT "a jug of wine, a loaf of brea
d-and thou"
300 PRINT "beside me singing in the wild
erness-"
310 PRINT " Oh, wilderness were paradise
 now!"
320 PRINT
330 PRINT "1) Happiness or contentment c
an be found without much planning."
340 PRINT "2) Happiness is in accepting
and enjoying simple things."
350 PRINT "3) Happiness is always presen
t - If we take the time to look."
360 PRINT "4) If you set your mind to it
, Happiness can be found."
370 PRINT "5) Happiness is where we find
 it."
380 INPUT x1
390 CLS
400 PRINT "There is a tide in the affair
s of men,"
410 PRINT "which, taken at the flood, le
ads on to fortune;"
420 PRINT "omitted, all the voyage of th
eir life"
430 PRINT "is bound in shallows and in m
iseries. "
440 PRINT " "
450 PRINT "1) Make the most of your chan
ce when you get it."
460 PRINT "2) In many cases of failure,
people were affected by"
470 PRINT "    circumstances over which
they had little control."
480 PRINT "3) One who plans well will su
rvive well under the laws of nature."
490 PRINT "4) Life is such that if pays
to watch what you do before you"
500 PRINT "    run into trouble."
510 PRINT "5) One should be on the watch
 for opportunity to knock,"
520 PRINT "    otherwise he will miss ou
t on going places."
530 INPUT x2
540 CLS
550 PRINT "No man is an island, entire o
f itself."
560 PRINT
570 PRINT "1) Everyone should consider t
he needs and wants of others."
580 PRINT "2) Use others influence to he
lp you plan your life."
590 PRINT "3) One who acts without regar
d for others does not realize"
600 PRINT "    that he is a social anima
l."
610 PRINT "4) To get where you want to b
e in life you must realize the"
620 PRINT "    need for help from others
."
630 PRINT "5) Although I am the captain
of my soul, I must make my way"
640 PRINT "    in life amoung many other
 captains."
650 INPUT x3
660 CLS
670 PRINT "The test indicates that you a
re:"
680 PRINT: PRINT TAB(10);
690 ON x1 GOTO 700,710,720,730
700 PRINT "Irresponsible": GOTO 740
710 PRINT "conventional and moralistic":
 GOTO 740
720 PRINT "practical": GOTO 740
730 PRINT "formal"
740 PRINT TAB(10);
750 ON x2 GOTO 760,770,780,790,800
760 PRINT "practical and logical": GOTO
810
770 PRINT "moralistic": GOTO 810
780 PRINT "conventional": GOTO 810
790 PRINT "humorous and sensible": GOTO
810
800 PRINT "ego-centric"
810 PRINT TAB(10);
820 ON x3 GOTO 830,840,850,860,870
830 PRINT "conventional": GOTO 880
840 PRINT "practical and logical": GOTO
880
850 PRINT "objective": GOTO 880
860 PRINT "ego-centric": GOTO 880
870 PRINT "moralistic"
880 PRINT
890 PRINT "If a trait is listed twice, t
his is all the"
900 PRINT " more indication of your pers
onality."
910 PRINT: PRINT
920 END
```

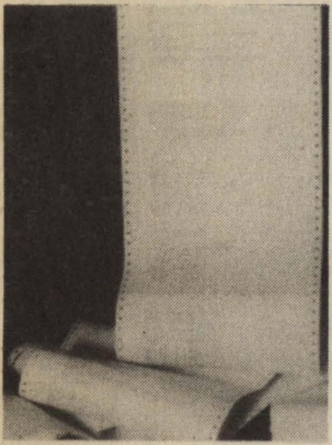


BIORHYTHM

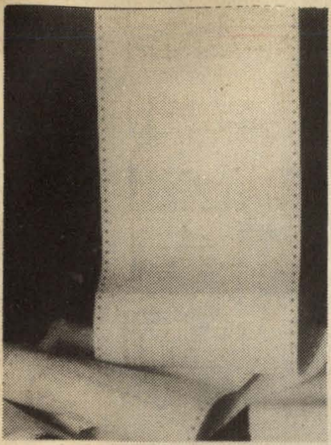
This Biorhythm program demonstrates how Quick Basic can be used to write a program without line numbers. The program is made up of Functions, the main program, and then subprograms. The two functions following return integers due to the % as in FNd.cycle%. The parameters passed to the function are age.days% and period%. The integer variables age.days%, and period% are local to the function. Any variable not passed is global unless specifically made local with the STATIC statement.

B. Webster
Melbourne Vic

```
'Bio-rhythm program to demonstrate how Quick Basic can be used to write a
'program without line numbers. The program is made up of FuNctions, the main
'program, and then subprograms.

'The two functions following return integers due to the % ie FNd.cycle%
'The parameters passed to the function are age.days% and period%. The
'integer variables age.days%, and period% are local to the function.
'Any variable not passed is global unless specifically made local with the
'STATIC statement.

DEF FNd.cycle%(age.days%,period%)
  FNd.cycle% = ((age.days%/period%) - INT(age.days%/period%)) * period%
End DEF

DEF FNy.axis%(x.days%,period%)
  FNy.axis% = INT(SIN(x.days% / period% * 2 * 3.14159) * 10 + 0.5)
End DEF

'The following arrays are shared with the main and subprograms ie made
'global.

Dim Shared Table%(40,3)
Dim Shared d.month%(12)

'The main program follows, the Call statement Calls a subprogram, and can
'pass variables to the subprogram or from it. ie Call Age.days passes
'd.birth% , m.birth% , y.birth% , d.run% , m.run% , y.run% to the subprogram
'and the age.days% is returned.

Input "Date of birth as day,month,year ";d.birth%,m.birth%,y.birth%
Input "Date of start of Bio-rhythm as day,month,year ";d.run%,m.run%,y.run%
Input "Name of person ";Name$
Input "How many runs do you want ";Runs%

Call days.month

'The For Next loop can be indented as follows

For Run.No% = 1 to Runs%
  Call Age.days(d.birth%,m.birth%,y.birth%,d.run%,m.run%,y.run%,age.days%)
  Call Table.calc(age.days%)
  Call Graph(age.days%,Name$)
  Call Date(d.run%,m.run%,y.run%)
  'The If Then ElseIf Else End If can be used in a multiple line format
  'as follows
  If Run.No%/2.0 = INT(Run.No%/2.0) Then
    Lprint CHR$(12)
  Else Lines% = 2
    Call Blank(Lines%)
  End If
Next Run.No%

Call Advert
LPrint CHR$(12)

End

'The Subprograms follow their variable are all local except the shared array's

Sub days.month Static
  Data 31,28,31,30,31,30,31,31,30,31,30,31
  For month% = 1 to 12
    Read d.month%(month%)
  Next month%
End Sub

Sub Age.days(d.birth%,m.birth%,y.birth%,d.run%,m.run%,y.run%,age.days%)Static
  year% = y.birth%
  age.days% = 0
  Call Leap.year(year%,d.month%(2))
  If ((y.birth% = y.run%) AND (m.birth% = m.run%)) = false THEN
    month% = m.birth% + 1
    If month% = 13 THEN
      year% = year% + 1
      month% = 1
    End If
    age.days% = d.month%(m.birth%) - d.birth%
  Else age.days% = - d.birth%
  End If
  While year% < y.run%
    For mon% = month% to 12
      age.days% = age.days% + d.month%(mon%)
    Next mon%
    month% = 1
    year% = year% + 1
    Call Leap.year(year%,d.month%(2))
  WEnd
```



```
  While month% < m.run%
    age.days% = age.days% + d.month%(month%)
    month% = month% + 1
  WEnd
  age.days% = age.days% + d.run%
End Sub

Sub Table.calc(age.days%) Static
  Dim period(3)
  period(1) = 23
  period(2) = 28
  period(3) = 33
  age% = age.days%
  For col% = 1 to 3
    For x% = 1 to 40
      Table%(x%,col%) = FNy.axis%(FNd.cycle%(age%,period(col%)),period(col%))
      age% = age% + 1
    Next x%
    age% = age.days%
  Next col%
End Sub

Sub Leap.year(year%,days.feb%) Static
  If (year%/4.0) = Int(year%/4.0) Then
    days.feb% = 29
  Else days.feb% = 28
  End If
End Sub

Sub Graph(age.days%,Name$) Static
  Dim graph$(21)
  Erase graph$
  For row% = 1 to 21
    For col% = 1 to 41
      If col% = 1 then
        graph$(row%) = graph$(row%) + "+"
      ElseIf row% = 11 then
        graph$(row%) = graph$(row%) + "+"
      Else graph$(row%) = graph$(row%) + " "
      End If
    Next col%
  Next row%
  Dim point$(3)
  Dim pnt$(3)
  point$(1) = "p"
  point$(2) = "e"
  point$(3) = "i"
  For x% = 1 to 40
    For col% = 1 to 3
      row% = Table%(x%,col%) + 11
      If row% = 11 then
        pnt$(col%) = CHR$(ASC(point$(col%))-32)
      Else pnt$(col%) = point$(col%)
      End If
      If MID$(graph$(row%),x%+1,1) <> " " then
        If MID$(graph$(rcw%),x%+1,1) <> "+" then
          pnt$(col%) = "*"
        End If
      End If
      graph$(row%)=LEFT$(graph$(row%),x%)+pnt$(col%)+RIGHT$(graph$(row%),40-x%)
    next col%
  next x%
' Bold Printing on esc G
  LPrint CHR$(27);"G";Name$;
  LPrint Tab(50);"PERSONAL BIORHYTHM" ;CHR$(27);"H"
  LPrint
  LPrint "Age in days ";age.days%
  LPrint
  Width "LPT1:",132
  LPrint CHR$(15);      'condensed print
  For col% = 1 to 40
    LPrint "+  ";
  Next col%
  LPrint
  For row% = 21 to 1 step -1
    For col% = 1 to 40
      LPrint MID$(graph$(row%),col%,1);"  ";
    Next col%
    LPrint
  Next row%
  For col% = 1 to 40
    LPrint "+  ";
  Next col%
  LPrint
  LPrint CHR$(18);      'normal print
End sub
```



```
Sub Date(d.run%,m.run%,y.run%) Static
  LPrint CHR$(15);       'condensed print
  d.date% = d.run%
  m.date% = m.run%
  y.date% = y.run%
  Call Leap.year(y.date%,d.month%(2))
  LPrint " ";
  For x% = 1 to 40
    If d.date% <= d.month%(m.date%) then
      LPrint using "###";d.date%;
      d.date% = d.date% + 1
    Else
      d.date% = 1
      m.date% = m.date% + 1
      If m.date% = 13 then
        m.date% = 1
        y.date% = y.date% + 1
        Call Leap.year(y.date%,d.month%(2))
      End If
    End If
  Next x%
  LPrint
  LPrint d.run%;"/";m.run%;"/";y.run%;Tab(110);d.date%;"/";m.date%;"/";y.date%
  LPrint " Start date";Tab(110);" Finish Date"
  LPrint CHR$(18);       'normal print
  d.run% = d.date%
  m.run% = m.date%
  y.run% = y.date%
End sub

Sub Advert Static
  Lines% = 4
  Call Blank(Lines%)
  LPrint "If you found your personal biorhythm chart beneficial and would "
  LPrint "like a further chart please type Run Bio and answer the questions"
  Lines% = 4
  Call Blank(Lines%)
End Sub

Sub Blank(Lines%) Static
  For x% = 1 to Lines%
    LPrint
  Next x%
End Sub
```

```
Brian Webster                                   PERSONAL BIORHYTHM

Age in days  16118

+  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +
+                                p  p              e  e  e                       i  i  i              p  p
+                             p        p        e           e                 i           i  i     p        p
+                                         p  e                 e           i                    i              p
+                          p                                            i                       p
+                                         e  p                    e                                i              p
+  i                    p                                            i                       p        i
+                                      e        p                 i  e                                               p
+     i              p                                                                    p              i
+                                   e                          i        e
+        i                                         p                                                        i
+  +  +  +  +  +  P  +  +  +  +  E  +  +  +  +  +  +  +  +  I  +  +  +  +  E  +  +  +  P  +  +  +  +  +  +  +  +  +  E
+           i                                         p                                                        i
+                             e                          i                    e                                   e
+              i                                                                    p                             i
+                          e                          i  p                       e                             e
+           p     i                                i                             p                                   i
+                    i  e                                   p                       e                       e
+        p                                      i                             p
+  e                 e  i                    i                 p                       e                 e
+     i           e        i  i           i                       p        p              e           e
+  p     e  e  e                 i  i  i                             p  p                    e  e  e
+  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +  +
   7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31  1  2  3  4  5  6  7  8  9 10 11 12 13 14
7 / 7 / 87                                                                                                    15 / 8 / 87
Start date                                                                                                    Finish Date




If you found your personal biorhythm chart beneficial and would
like a further chart please type Run Bio and answer the questions
```

AMSTRAD

FLASH

Have you ever wanted to have unlimited power at your fingertips? Well, this program is not that good but it does simulate a sort of magical touch.

Every time you touch a key a simulated lightning flash of multicolours scans the screen, almost blinding you. The same happens when you use an operation. Only it lasts longer.

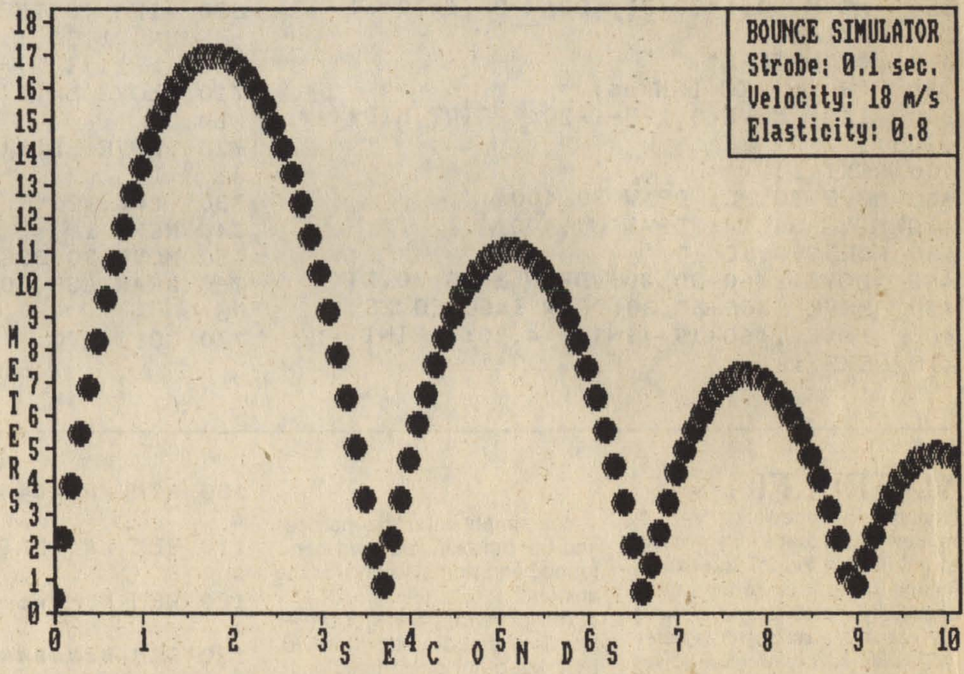
Try (cat) and watch the result. It creates an electrical storm. This is a good program to trick your friends with. You can tell them that your computer is playing up. Then tell them to press a key and watch their reaction. It's quite amusing.

It's also good to test out your sunglasses.

P. White
Elizabeth Park SA

```
100 REM ############# FLASH ###########
####
110 REM # Stephen White invention # Jan'
87 #
120 ' Causes colours to flash on the scr
een
130 ' whenever something is printed.
140 '
150 MEMORY &9FFF
160 DATA 245,229,213,197,33,208,189,17,3
6,160,1,3,0
170 DATA 237,176,33,39,160,17,208,189,1,
3,0,237,176,193
180 DATA 209,225,241,201,245,205,37,189,
241,195,91,18,195,31,160
190 '
200 FOR i=&A000 TO &A000+41
210  READ d: POKE i,d
220 NEXT i
230 CALL &A000
240 '
250 END
```

BOUNCE



This is an excellent program for physics enthusiasts. Remember the days in school when you tried the experiment with the strobe light, the golf ball and the camera, to see the effect of distance against time? Well, you can forget that primitive way of deriving a result. This new Bounce simulator does it all for you — plus more.

You firstly specify the initial velocity of a ball thrown straight up in the air, measured in metres per second. Then you put in the co-efficient of elasticity for the ball, which is a measure of the bounciness. For realism you have to put in a decimal fraction under 1. This is because no ball can bounce higher than the place from where it was dropped. If you put in 1 this will make it bounce just as high as where it was dropped from. You can experiment with numbers larger than 1 to get some interesting results, but you can't rely on these results as it's a contradiction of the law of kinetics. The next input is the time increment for the strobe. This is the space of time between each simulated flash on the ball.

When the information has been entered, the screen is drawn up, comprising a graph of distance versus time filling the screen, with a box in the top right hand corner showing your input. The information is then simulated into graphics giving you a pictorial view of what you want.

This program saves a lot of time and setting up, not to mention film for all the blunders that are destined to occur.

M. Kostecki
Elizabeth Park SA

```
100 REM  ##### BOUNCE SIMULATOR #####
110 REM # Miroslav Kostecki # Dec'86 #
120 '
130 MODE 2: INK 1,0: INK 0,13: BORDER 13
140 PRINT:PRINT:PRINT: ZONE 5
150 PRINT ,,,,"BOUNCE SIMULATOR": PRINT:
PRINT
160 PRINT ," This simulation lets you sp
ecify the initial velocity"
```

```
170 PRINT ,"of a ball thrown straight up
, and the coefficient of"
180 PRINT ,"elasticity of the ball.  Ple
ase use a decimal fraction"
190 PRINT ,"coefficiency (less then 1)."
200 PRINT
210 PRINT ," You also specify the time i
ncrement to be used in"
220 PRINT ,"'strobing' the ball's flight
 (try .1 initally)."
230 PRINT
240 INPUT "    Time increment (sec) ";S2
250 PRINT
260 INPUT "    Velocity (m/s) ";v
270 PRINT
280 INPUT "    Elasticity Coefficient ";
c
290 CLS
300 SYMBOL AFTER 230
310 SYMBOL 230,&X101,&X101111,&X1011111,
&X10111111,&X10111111,&X1011111,&X101111
,&X101
320 SYMBOL 231,&X11100000,&X11111100,&X1
1111110,255,255,&X11111110,&X11111100,&X
11100000
330 FOR i=0 TO 20
340  TAG: MOVE -3-(i<10)*8,i*20+36: PRIN
T i;
350  MOVE 30,i*20+31: DRAW 25,i*20+31
360 NEXT i
370 a$="METERS"
380 FOR i=1 TO LEN(a$)
390  TAG: MOVE 0,225-i*20: PRINT MID$(a$
,i,1);
400 NEXT i
410 MOVE 30,30: DRAW 30,400
420 MOVE 31,24: DRAW 31,400
430 FOR i=0 TO 10
440  MOVE i*60+30,30: DRAW i*60+30,24
450  MOVE i*60+60,30:DRAW i*60+60,28
460  MOVE i*60+19+(i=10)*4,20: PRINT i;
470 NEXT i
480 MOVE 30,30: DRAW 640,30
490 a$="SECONDS"
500 FOR i=1 TO LEN(a$)
510  TAG: MOVE i*30+192,12: PRINT MID$(a
$,i,1);
520 NEXT i
530 MOVE 30,398: DRAW 639,398
540 DRAW 639,30: MOVE 638,30: DRAW 638,3
98
550 MOVE 500,390: PRINT "BOUNCE SIMULATO
R";
560 MOVE 500,370: PRINT "Strobe:";s2;"se
c.";
570 MOVE 500,350: PRINT "Velocity:";v;"m
/s";
580 MOVE 500,330: PRINT "Elasticity:";c;
590 MOVE 486,398: DRAW 486,308: DRAW 639
,308
600 MOVE 487,398: DRAW 487,308
610 ORIGIN 0,0,32,640,396,32
620 GRAPHICS PEN 1,1
630 num=10/s2: t=0: b$=CHR$(230)+CHR$(23
1)
640 DIM ball(num+num/20,2)
650 FOR i=0 TO num+num/20
660  ball(i,1)=22+i*600/num
670  y=v*t-4.9*t*t
680  IF v<0.000001 THEN 750
690  IF y<0 THEN t2=v/4.9: t=t-t2: v=v*c
: SOUND 1,50,1: GOTO 670
700  ball(i,2)=y*20+47
710  MOVE ball(i,1)-1,ball(i,2),0: PRINT
 b$;
720  MOVE ball(i,1),ball(i,2),1: PRINT b
$;
730  t=t+s2
740 NEXT i
750 MOVE 30,398: DRAW 639,398
760 DRAW 639,30: MOVE 638,30: DRAW 638,3
98
770 GOTO 770
```

MATRIX.EIG

Homework, homework, homework . . . that's all you seem to get, isn't it kids? I know the feeling. I had it up to my ears, especially maths. However, have no fear as Matrix Solver is here.

This life-saving program solves any matrix operation you may ask with the greatest of ease, which is a bit different from the long agonizing minutes on one question done manually. The functions are as follows:

a) Matrix multiplication.
b) Scalar multiplication.
c) Matrix addition.
d) Matrix subtraction.
e) Row reduction.
f) Determinant finding.

You simply enter the matrices and the function you want performed and wait a second for the answer.

These are only a few of the functions that can be performed. By using other direct functions you can come to the answer. For example, to subtract you would multiply the matrix by negative one and add the other matrix.

The good thing about this program is that you don't have to know anything about matrices. Nothing at all! That is, of course, except for the question. The program is not only great for kids but also the teachers as well. You teachers out there, don't you

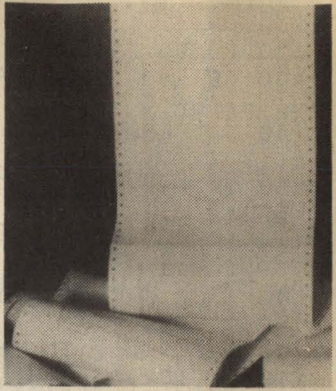
```
100 REM ################################
#
110 REM ### MATRIX ARITHMETIC PACKAGE ##
#
120 REM # Miroslav Kostecki ## 18.12.86
#
130 REM ################################
#
140 '
150 varnum=10' ...Maximum number of vari
ables
160 size=10' ...Maximum number of Rows o
r Columns per Matrix
170 DIM mat(varnum,size,size),temp(size,
size),row(varnum),col(varnum)
180 CLS: PRINT
190 PRINT "              COMMANDS"
200 PRINT
```

```
210 PRINT "              a -Print a matrix."
220 PRINT "             a= -Entry."
230 PRINT "            a=b -Assignment betwe
en variables."
240 PRINT "          a=b*c -Matrix multiplic
ation."
250 PRINT " a=b.<real> -Scalar multiplic
ation."
260 PRINT "          a=b+c -Matrix addition.
"
270 PRINT "           a=b: -Row reduction."
280 PRINT
290 '      Get command and do as asked...
300 INPUT " #",in$
310 IF in$="quit" THEN END
320 IF in$="help" THEN 180' ...show oper
ations
330 p=1' ...Position in string
340 GOSUB 2110' ...Get 1st variable
350 IF x=0 THEN 1750' ...not variable er
ror
360 a=x
370 IF p-1= LEN(in$) THEN 700' ...show a
 matrix
380 GOSUB 2040' ...skip spaces
390 IF MID$(in$,p,1)<> "=" THEN 1770
400 IF p=LEN(in$) THEN 560' ...get a mat
rix
410 GOSUB 2040' ...skip spaces
420 IF MID$(in$,p,1)="" THEN 560' ...spa
ces after = so get matrix
430 p=p+1' ...point to next variable
440 GOSUB 2110' ...get variable number i
n x
450 IF x=0 THEN 1750' ...not variable er
ror
460 b=x' ...first argument of source
470 IF row(b)=0 THEN 1830' ...unassigned
 error
480 IF p-1= LEN(in$) THEN GOSUB 800: GOT
O 290' ...straight assighnment
490 '              Must be an operation...
500 GOSUB 2040' ...skip spaces
510 IF MID$(in$,p,1)="+" THEN 910' ...ma
trix addition
520 IF MID$(in$,p,1)="*" THEN 1080' ...m
atrix multiplication
530 IF MID$(in$,p,1)="." THEN 1370' ...s
calar multiplication
540 IF MID$(in$,p,1)=":" THEN 1510' ...r
ow reduction
550 GOTO 1860
560 '
570 '   Get a matrix...
580 INPUT "Number of rows ";row(a)
590 IF row(a)<1 OR row(a)>size THEN 580
600 INPUT "Number of columns ";col(a)
610 IF col(a)<1 OR col(a)>size THEN 600
620 '   get array...
630 FOR i=1 TO row(a)
640  FOR j=1 TO col(a)
650   INPUT ;mat(a,j,i): PRINT,
660  NEXT j
670  PRINT
```

hate the arduous task of working out the right matrices to an answer for a test or exam? This work can be halved by the matrix package. Using the functions you can enter the desired answer and the computer will manipulate it for you.

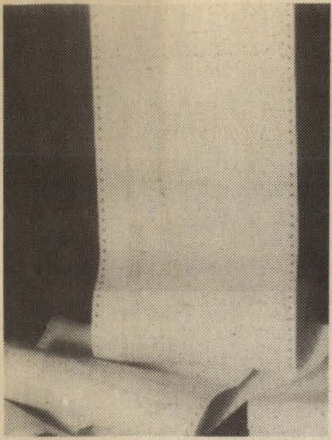
This program is easy to expand on if your requirements are not met, and if you don't have an Amstrad, no need to panic, as Matrix will work on most Basic computers.

M. Kostecki & P. Vermeer
Elizabeth Park SA



```
680 NEXT i
690 GOTO 290
700 '
710 '   Print a matrix...
720 IF row(a)=0 THEN 1830' ...unassigned
 error
730 FOR i=1 TO row(a)
740  FOR j=1 TO col(a)
750   PRINT mat(a,j,i),
760  NEXT j
770  PRINT
780 NEXT i
790 GOTO 290
800 '
810 '   Straight assighnment...
820 FOR i=1 TO row(b)
830  FOR j=1 TO col(b)
840   mat(a,j,i)=mat(b,j,i)
850  NEXT j
860 NEXT i
870 row(a)=row(b)
880 col(a)=col(b)
890 RETURN
900 '
910 '   Matrix addition
920 IF p=LEN(in$) THEN 1790' ...missing
argument error
930 p=p+1
940 GOSUB 2110' ...get 3rd arg in x
950 IF x=0 THEN 1750
960 '   need b and x to have same diment
ions
970 IF row(x)=0 THEN 1830
980 IF row(x)<> row(b) OR col(x)<>col(b)
 THEN 1810
990 FOR i=1 TO row(b)
1000  FOR j=1 TO col(b)
1010   mat(a,j,i)=mat(b,j,i)+mat(x,j,i)+
1-1
1020  NEXT j
1030 NEXT i
1040 row(a)=row(b)
1050 col(a)=col(b)
1060 GOTO 290
1070 '
1080 '   Matrix multiplication...
1090 '   check for third argument
1100 IF p=LEN(in$) THEN 1790' ...missing
 arg. error
```

```
1110 p=p+1
1120 GOSUB 2110' ...get third arg in x
1130 IF x=0 THEN 1750' ...bad variable n
ame error
1140 '   check that rows/columns will wo
rk...
1150 IF row(x)=0 THEN 1830' ...unassigne
d error
1160 IF col(b)<>row(x) THEN 1880
1170 FOR i=1 TO row(b)
1180  FOR j=1 TO col(x)
1190   s0=0
1200   FOR k=1 TO row(x)
1210    s0=s0+mat(b,k,i)*mat(x,j,k)
1220   NEXT k
1230   temp(j,i)=s0
1240  NEXT j
1250 NEXT i
1260 '   assign result to destination a.
..
1270 FOR i=1 TO row(b)
1280  FOR j=1 TO col(x)
1290   mat(a,j,i)=temp(j,i)+1-1
1300  NEXT j
1310 NEXT i
1320 '   assign correct dimentions to a.
..
1330 row(a)=row(b)
1340 col(a)=col(x)
1350 GOTO 290
1360 '
1370 '   Scalar multiplication
1380 IF p=LEN(in$) THEN 1790
1390 p=p+1
1400 n0$=RIGHT$(in$,LEN(in$)-p+1)
1410 n1=VAL(n0$)
1420 FOR i=1 TO row(b)
1430  FOR j=1 TO col(b)
1440   mat(a,j,i)=n1*mat(b,j,i)
1450  NEXT j
1460 NEXT i
1470 row(a)=row(b)
1480 col(a)=col(b)
1490 GOTO 290
1500 '
1510 '   Row reduction...
1520 IF row(b)<2 OR col(b)<2 THEN 1900'
...too small error
1530 IF row(b)>=col(b) THEN 1920' ...Err
or ***
1540 GOSUB 800
1550 FOR i=1 TO row(a)
1560  y1=mat(a,i,i): IF y1=0 THEN 1650
1570  FOR j=1 TO row(a)
1580   IF j=i THEN 1640
1590   z1=mat(a,i,j)
1600   FOR k=1 TO col(a)
1610    mat(a,k,j)=mat(a,k,j)-mat(a,k,i)
*z1/y1
1620   NEXT k
1630   mat(a,i,j)=0
1640  NEXT j
1650 NEXT i
1660 FOR i=1 TO row(a)
1670  IF ABS(mat(a,i,i))<0.0001 THEN 172
0
1680  FOR j=row(a)+1 TO col(a)
1690   mat(a,j,i)=mat(a,j,i)/mat(a,i,i)
1700  NEXT j
1710  mat(a,i,i)=1
1720 NEXT i
1730 GOTO 290
1740 '
1750 PRINT "  ";MID$(in$,p,1);" is not a
 variable"
1760 GOTO 1950
1770 PRINT "  Missing equals..."
1780 GOTO 1950
1790 PRINT "  Missing argument"
1800 GOTO 1950
1810 PRINT "  Cannot add matricies of di
fferent dimentions"
1820 GOTO 290
1830 PRINT "  Unassigned variable"
1840 p=p-1
1850 GOTO 1950
1860 PRINT "  Not an operation"
1870 GOTO 1950
1880 PRINT "  Cannot compose due to mism
atched codomain and domain"
1890 GOTO 1930
1900 PRINT "  Too small to reduce"
1910 GOTO 1930
1920 PRINT "  Too many rows"
1930 PRINT CHR$(7);:GOTO 290
1940 '
1950 PRINT "  ";CHR$(7);in$
1960 PRINT "  ";
1970 IF p=1 THEN 2010
1980 FOR i=1 TO p-1
1990  PRINT " ";
2000 NEXT i
2010 PRINT "^"
2020 GOTO 290
2030 '
2040 '   Subroutene to skip spaces...
2050 IF p=LEN(in$) THEN 2100
2060 '   OK to see if there are some spa
ces
2070 IF MID$(in$,p,1)<>" " THEN 2100' ..
.not a space
2080 p=p+1
2090 GOTO 2070
2100 RETURN
2110 '
2120 ' ...Get a variable name in x from
in$,
2130 '   returning 0 if error
2140 '   uses in$,p,x
2150 GOSUB 2040' ...skip spaces
2160 m$=MID$(in$,p,1): IF m$<"a" OR m$>"
z" THEN x=0: GOTO 2200
2170 x=ASC(m$)-ASC("a")+1
2180 IF x>varnum THEN x=0: GOTO 2200
2190 p=p+1
2200 RETURN
```



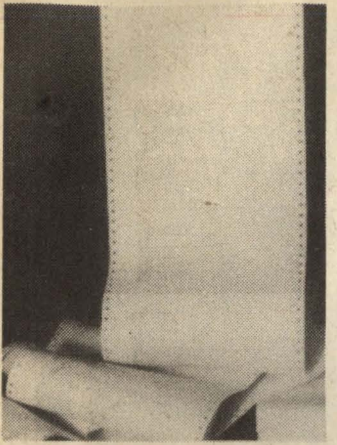
BRICKS

Bricks is a game where you must knock down a row of bricks with a 'ball'. You use the joystick or keyboard to control the 'bat' to hit the 'ball'.

Pressing 'Q' moves the bat up while pressing 'A' moves the bat down. 'Y' or pressing the fire button restarts the game.

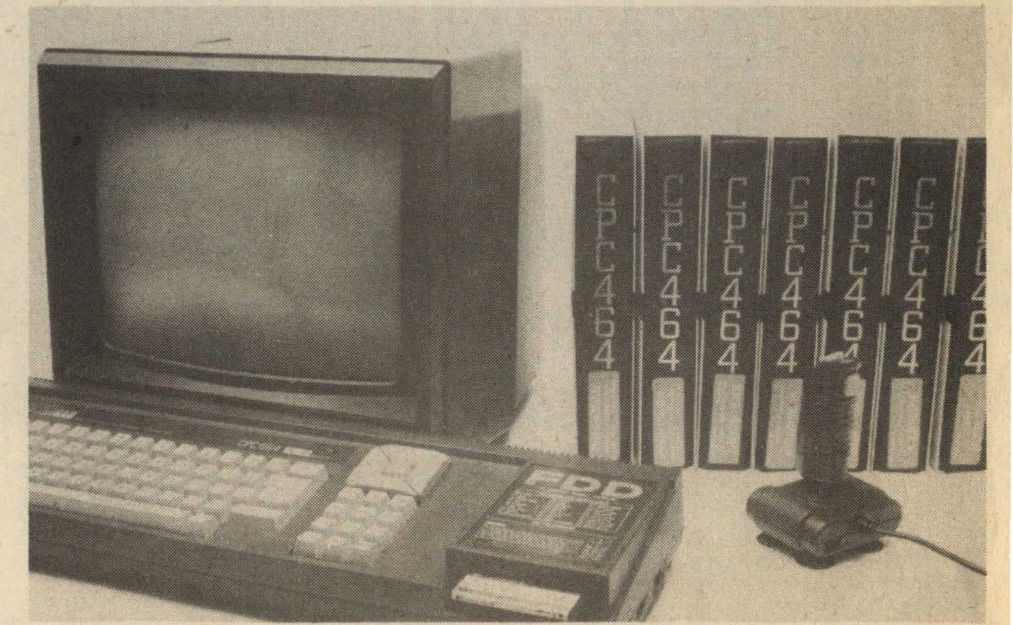
D. O'Connor
Mt Gambier SA

```
10 '
20 '
30 '
40 '
50 '
60 '
70 '
80 '
90 '
100 DIM s(6,22)
110 GOSUB 990
120 x=5
130 y=INT(RND(TIME)*19)+3
140 d1=1
150 d2=INT(RND(TIME)*2)+1
160 IF d2=2 THEN d2=-1
170 '
180 '  move ball
190 '
200 IF y>21 THEN d2=-1
210 IF x>18 THEN d1=-1
220 IF y<3 THEN d2=1
230 IF x<2 THEN 850
240 LOCATE x,y
250 PEN 0
260 PRINT CHR$(143);
270 x=x+d1
280 y=y+d2
290 IF x=3 AND (y=y1 OR y=y1+1 OR y=y1+2) THEN d1=1:SOUND 7,4000,5,15,0,0,5
300 IF y=y1+1 THEN y=y-1:GOTO 320
310 IF y=y1 THEN y=y+1
320 LOCATE x,y
330 PEN 5
340 PRINT CHR$(143);
350 IF x<14 THEN 590
360 '
370 '  hit bricks
380 '
390 IF s(x-13,y)=1 THEN 200
400 SOUND 3,4000,10,12,0,0,10
410 sc=sc+1
420 LOCATE #1,12,1
430 PRINT#1,sc
440 s(x-13,y)=1
450 IF d1=-1 THEN d1=1 ELSE d1=-1
460 IF sc/126=INT(SC/126) THEN 110
470 IF sc/63<>INT(SC/63) THEN 550
480 LOCATE x,y
490 PEN 0
500 PRINT CHR$(143);
510 FOR x=1 TO 300:NEXT
520 x=5
530 d1=1
540 IF y>15 THEN y=y-1 ELSE y=y+1
550 GOTO 200
560 '
570 '  move bat
580 '
590 j=JOY(0)
600 j$=BIN$(j,5)
610 i$=UPPER$(INKEY$)
620 IF i$="Q" OR MID$(j$,5,1)="1" THEN y1=y1-1:IF y1<2 THEN y1=2
630 IF i$="A" OR MID$(j$,4,1)="1" THEN y1=y1+1:IF y1>20 THEN y1=20
640 y2=4
650 IF x1=y1 THEN x2=4 ELSE x2=0
660 LOCATE 2,x1
670 PEN x2
680 PRINT CHR$(143)
690 LOCATE 2,x1+1
700 PRINT CHR$(143)
710 LOCATE 2,x1+2
720 PRINT CHR$(143)
```



```
730 LOCATE 2,y1
740 PEN y2
750 PRINT CHR$(143)
760 LOCATE 2,y1+1
770 PRINT CHR$(143)
780 LOCATE 2,y1+2
790 PRINT CHR$(143)
800 x1=y1
810 GOTO 200
820 '
830 '  game over
840 '
850 FOR i=1 TO 5
860 SOUND 3,4000,10,12,0,0,10
870 NEXT
880 PEN #1,5
890 LOCATE #1,4,2
900 PRINT#1,"Play again ?";
910 CLEAR INPUT
920 i$=UPPER$(INKEY$)
930 IF i$="" THEN 920
940 IF i$="N" THEN MODE 1:PEN 1:END
950 IF i$="Y" OR i$="X" THEN RUN ELSE 920
960 '
970 '  draw board
980 '
990 MODE 0
1000 INK 0,0
1010 INK 1,6
1020 INK 2,15
1030 INK 3,10
1040 INK 4,9
1050 INK 5,4
1060 INK 6,7
1070 PAPER 0
1080 BORDER 0
1090 GRAPHICS PEN 1
1100 PEN #1,6
1110 FOR X=1 TO 6
1120 FOR Y=1 TO 22
1130 S(X,Y)=0
1140 NEXT:NEXT
1150 PLOT 8,46
1160 DRAW 8,384
1170 DRAW 610,384
```

```
1180 DRAW 610,46
1190 DRAW 8,46
1200 WINDOW #1,1,20,24,25
1210 WINDOW #0,1,20,1,23
1220 PRINT#1,"      Score:"sc
1230 y1=10
1240 x1=y1
1250 PEN 4
1260 LOCATE 2,y1
1270 PRINT CHR$(143)
1280 LOCATE 2,y1+1
1290 PRINT CHR$(143)
1300 LOCATE 2,y1+2
1310 PRINT CHR$(143)
1320 FOR i=2 TO 22 STEP 2
1330 PEN 2
1340 LOCATE 14,i
1350 PRINT CHR$(143)
1360 LOCATE 16,i
1370 PRINT CHR$(143)
1380 LOCATE 18,i
1390 PRINT CHR$(143)
1400 IF i=22 THEN 1470
1410 LOCATE 15,i+1
1420 PRINT CHR$(143)
1430 LOCATE 17,i+1
1440 PRINT CHR$(143)
1450 LOCATE 19,i+1
1460 PRINT CHR$(143)
1470 PEN 3
1480 LOCATE 15,i
1490 PRINT CHR$(143)
1500 LOCATE 17,i
1510 PRINT CHR$(143)
1520 LOCATE 19,i
1530 PRINT CHR$(143)
1540 IF i=22 THEN 1610
1550 LOCATE 14,i+1
1560 PRINT CHR$(143)
1570 LOCATE 16,i+1
1580 PRINT CHR$(143)
1590 LOCATE 18,i+1
1600 PRINT CHR$(143)
1610 NEXT
1620 RETURN
```



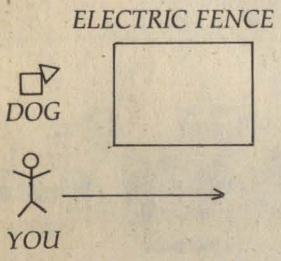
CHASE

This is quite an entertaining game which will pass the time quite quickly. Five wild dogs have been eating the chickens from your farm and you haven't been able to shoot them yet.

So you've set a trap for them. You did this by erecting an electric fence of death-high amperage, around a field, hoping to capture them in there. However, as you turn to walk out the gate and wait for the dogs, they walk in and the wind blows the gate shut . . . You're trapped in with them.

Fortunately, the dogs haven't eaten for a while and are sick from starvation. This means that they can't run very fast. The fastest they can run is equal to your speed and they can't suddenly stop. They have to slow down for quite a few meters before coming to a halt.

You have no weapons so the only way you can kill them is to somehow make them run into the fence. This is done as the diagram shows:



The dogs, when next to you, move in the same direction as you so as to create the least distance between you and them. Therefore, you can run them into the fence blocks.

There is a neat setup for the screen with the field in the middle and just to the left of it, a map of direction keys. These keys are the number function keys, or if you want more of a challenge, try the normal numbers.

If you answer 'no' to having another game at the end of the program you get a summary of the whole set of games you played. The summary includes how many games you won, how many games the computer won, your average and the computers average.

Experimenting may give you interesting results. For instance, change the amount of dogs from five to ten and then try to play. That's what I call challenging!

P. Vermeer
Elizabeth Downs SA

```
100 REM    ### CHASE ###
110 REM Paul Vermeer. Jan'86
120 '
130 DIM a(10,20),e(21),f(21)
140 MODE 1: INK 0,13: INK 1,3
150 ENV 1,=9,2000: ENT -1,6,3,1
160 ENV 2,127,0,0,127,0,0,127,0,0,127,0,
0,127,0,0
170 ENV 3,=9,9000
180 SOUND 1,1000,0,12,2
190 SOUND 2,900,0,12,2
200 LOCATE 1,6
210 PRINT " MOVES": PRINT
220 PRINT " 7 8 9": PRINT
230 PRINT " 4 "+CHR$(248)+" 6": PRINT
240 PRINT " 1 2 3"
250 WINDOW 8,40,1,25
260 PRINT: PRINT TAB(8);"CHASE"
270 REM set up the game
280 g=0:z7=0
290 FOR b=1 TO 10
300  FOR c=1 TO 20
310   a(b,c)=0
320   IF b=1 OR b=10 THEN a(b,c)=1
330   IF c=1 OR c=20 THEN a(b,c)=1
340  NEXT c
350 NEXT b
360 '
370 FOR d=1 TO 21
380  b=INT(RND*8)+2
390  c=INT(RND*18)+2
400  IF a(b,c)<>0 THEN 380
410  a(b,c)=1
420  IF d<6 THEN a(b,c)=2
430  IF d=6 THEN a(b,c)=3
440  e(d)=b
450  f(d)=c
460 NEXT d
470 '
480 REM print pattern
490 p$(0)=" ": p$(1)=CHR$(207)
500 p$(2)=CHR$(181): p$(3)=CHR$(248)
510 LOCATE 1,5: FOR b=1 TO 10
520  a$="":FOR c=1 TO 20
530 a$=a$+p$(a(b,c)): NEXT c
540  PRINT a$
550 NEXT b
560 '
570 REM make move
580 b=e(6)
590 c=f(6)
600 a(b,c)=0
610 y=VAL(INKEY$+" "): IF y=0 THEN y=5
620 ON y GOTO 650,650,650,660,720,660,63
0,630,630
630 b=b-1
640 GOTO 660
650 b=b+1
660 ON y GOTO 670,720,690,670,720,690,67
0,720,690
670 c=c-1
680 GOTO 720
690 c=c+1
700 '
```

```
710 REM Calculate the results
720 IF a(b,c)=1 THEN 1010
730 IF a(b,c)=2 THEN 1040
740 a(b,c)=3
750 e(6)=b
760 f(6)=c
770 FOR d=1 TO 5
780 IF a(e(d),f(d))<>2 THEN 940
790 a(e(d),f(d))=0
800 IF e(d)>=b THEN 820
810 e(d)=e(d)+1
820 IF e(d)<b THEN 840
830 e(d)=e(d)-1
840 IF f(d)>=c THEN 860
850 f(d)=f(d)+1
860 IF f(d)<=c THEN 880
870 f(d)=f(d)-1
880 IF a(e(d), f(d))=3 THEN 1040
890 IF a(e(d), f(d))=0 THEN 910
900 g=g+1
910 IF a(e(d), f(d))<>0 THEN 930
920 a(e(d),f(d))=2
930 IF g=5 THEN 1060
940 NEXT d
950 '
960 GOTO 510
1000 GOTO 1070
1010 GOSUB 1170: PRINT: PRINT "You touch
ed the fence."
1020 z9=z9+1
1030 GOTO 1070
1040 GOSUB 1170: PRINT: PRINT "You have
been destroyed."
1045 z9=z9+1
1050 GOTO 1070
1060 PRINT: PRINT "***YOU DESTROYED THE
ENEMY***"
1065 z8=z8+1
1070 PRINT "Want to play again (y or n)"
;
1080 INPUT y$
1090 IF y$="y" THEN 140
1100 PRINT "Computer won:";z9;"", "the h
uman won:";z8
1110 PRINT "Computers average:";z9/(z9+z
8): PRINT"The humans average:";z8/(z9+z8
)
1120 PRINT
1130 PRINT "Hope you dont feel fenced in
."
1140 PRINT "Try again sometime."
1150 WINDOW 1,40,1,25
1160 END
1170 SOUND 135,100,0,13,3,1,20
1180 RETURN
```

CHARACTER ENLARGER

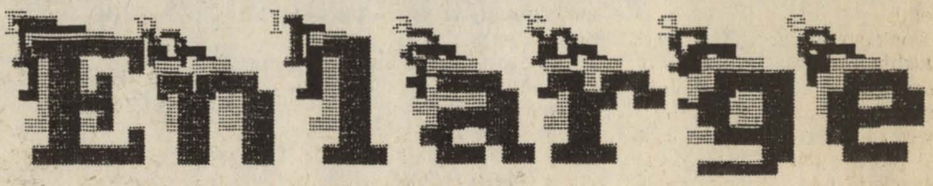
Don't you get annoyed when you sit down to draw up graphics for enlarged characters, knowing its going to take you at least three hours, and a lot more if you have a lot of characters? Why, if you wanted to do the graphics for the entire alphabet — only 5 times larger, it would take about 15 hours.

Character Enlarger eradicates the need for this wasting of precious time, by doing it all itself in the space of a few seconds. You simply type in the letter, location and size (relative to the normal size), and it draws it up in which ever colour you specify.

In the adjoining program, the subroutine is the part which does the actual enlarging of the characters and the rest of the program is a demonstration. Therefore, you only need to type the subroutine into your programs.

The demonstration is very striking to look at. You type in the sentence you want and the size and sit back watching the program go to work in front of your eyes.

M. Kostecki & P. Vermeer
Elizabeth Park SA



```
10 ' ### Character Enlarger ###
20 ' Miroslav Kostecki  18.12.86
30 '
40 DEFINT a-z
50 DIM a(8,8)' to store a character
60 INPUT "How many times larger do you w
ant your sentance"; size
70 INPUT "What is your sentance"; sentan
ce$
80 '
90 MODE 1
100 INK 1,0: INK 2,6: INK 3,2
110 dots=16*size
120 FOR size=1 TO size
130 inc=size-INT(size/3)*3+1
140 jj=1
150 FOR dn=300-size*4 TO dots STEP -dots
160  FOR ac=size*4 TO 639-dots STEP dots
170   a$=MID$(sentance$,jj,1)
180   jj=jj+1: IF jj-2=LEN(sentance$) TH
EN 210
190   GOSUB 1000' put enlarged character
200 NEXT ac,dn
210 NEXT size
220 '
```

```
230 GOTO 230
240 '
1000 'Enlarger subroutene
1010 'takes variables ...size = times en
larged
1020 '                    ...ac = across ,
 dn = down position
1030 '                   ...inc = ink numb
er
1040 '                    ...a$ = characte
r
1050 '
1060 GRAPHICS PEN inc
1070 FOR x=0 TO 7
1080  FOR y=0 TO 7
1090   a(x,y)=TEST( ac+x*2 ,dn-y*2)
1100 NEXT y,x
1110 '
1120 TAG: MOVE ac,dn: PRINT a$;
1130 '
1140 FOR x=0 TO 7
1150 FOR y=0 TO 7
1160  t=TEST( ac+x*2 ,dn-y*2)
1170  PLOT  ac+x*2 ,dn-y*2,a(x,y)
1180  a(x,y)=t
1190 NEXT y,x
1200 '
1210 FOR x=0 TO 7
1220 FOR y=0 TO 7
1230  IF a(x,y)=0 THEN 1280
1240  FOR xx=0 TO size*2-2 STEP 2
1250    PLOT ac+x*2*size+xx,dn-y*2*size,a
(x,y)
1260    DRAW ac+x*2*size+xx,dn-y*2*size-(
size*2-2)
1270  NEXT xx
1280 NEXT y,x
1290 '
1300 RETURN
```

SPEED READER

This . . . uh . . . sentence says . . . um . . . this . . . is a . . . great . . . um . . . program — having trouble like this reading? No need to fear — this program gives you heaps of practice at reading, and after a while you may become faster than your friends.

Don't get me wrong. This is not a highly acclaimed medical program. It's not guaranteed. All I know is that it's improved the speed of my reading and that it will improve yours too, if you use it properly. Just half an hour every day should do the trick.

Now you probably don't even know what I'm babbling on about because I haven't even talked about what the program does yet. Don't worry, we'll now rectify that situation.

The screen is set up as in the adjoining picture. The sentence of your choice moves from the right hand side of the box to the left very quickly. You're then asked to type in what that sentence is. If you're wrong, the sentence repeats the sequence but at a slower pace. This routine continues until you get it right. When you do get it right, the computer tells you how many 'specks' it took you. Specks are a measurement used by me, the programmer.

The best thing to do is get someone else to type in a sentence for you without your seeing. This means that you don't know what it is and you can't cheat. Or, by slightly modifying the program you can make it easier. By adding some data in the form of sentences the computer can randomly pick out a sentence to test you on.

Anyway, I hope you succeed as reading can be the greatest enjoyment in the world.

Paul Vermeer
Elizabeth Park SA

```
100 REM ##### SPEED READER #####
110 REM # Paul Vermeer. Jan'87 #
120 '
130 RANDOMIZE TIME/255 MOD 999
140 MODE 2
150 WINDOW 20,80,1,25
160 LOCATE 9,3: PRINT "SPEED READER"
170 LOCATE 9,4: PRINT STRING$(12,208)
190 INK 0,13: INK 1,0
200 a$="This is a sentence for your read
ing practice!!"
210 b$=STRING$(10," ")
220 '
230 'Random delay
240 MOVE 0,0,s: DRAW 639,0: DRAW 639,398
250 DRAW 0,398: DRAW 0,0: s=s MOD 2+1
260 IF RND<0.98 THEN 240
270 '
280 'border
290 LOCATE 8,9: PRINT CHR$(150)+STRING$(
12,154)+CHR$(156)
300 LOCATE 8,10: PRINT CHR$(149)+STRING$
(12," ")+CHR$(149)
310 LOCATE 8,11: PRINT CHR$(147)+STRING$
(12,154)+CHR$(153)
320 c$=b$+a$+b$
330 GOSUB 490
340 '
350 'scan the sentance across the window
360 FOR i=1 TO LEN(a$)+13 STEP 3+(sp>10)
+(sp>5)
370 LOCATE 10,10: PRINT MID$(c$,i,10);
380 FOR j=1 TO sp: NEXT j'delay
390 NEXT i
400 '
410 PRINT: PRINT: PRINT
420 INPUT "   What did it say";an$
430 IF an$<>a$ THEN PRINT: PRINT "   NO
Try again...a little slower this time.":
 sp=sp*1.1+2: FOR i=1 TO 1000: NEXT i: G
OTO 130
440 PRINT "   THATS RIGHT"+STRING$(30,"
")
450 PRINT "   Your speed was ";sp;" spec
ks!"
460 PRINT "   Next time I expect you to
do it in less specks!"
470 END
480 '
490 ENV 1,=9,2000: ENT -1,6,3,1
500 ENV 2,127,0,0,127,0,0,127,0,0,127,0,
0,127,0,0
510 ENV 3,=9,9000
520 SOUND 135,100,0,13,3,1,20
530 RETURN
```

APPLE

AMAZING ADVENTURE

You are Trasher, a famous adventurer. It is your mission to blow up the residence of an evil ruler, Antrax. He rules the once peaceful village of Partomina, which is in the other side of your planet. You are armed with a sword, plate mail armour, shield and a backpack. Your transport is a black stallion who you call Thundar. Good luck on your adventure.

G. Everitt
Weston ACT

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1  HOME
5  PRINT "****AMAZING ADVENTURE****"
7  PRINT
10  PRINT "YOU ARE TRASHER A FAMOUS ADVENTURER."
20  PRINT "YOU ARE ON A MISSION TO BLOW UP THE RESIDENCE OF AN EVIL RULE
   R"
30  PRINT "HIS NAME IS ANTRAX THE RULER OF THE ONCE PEACEFUL VILLAGE OF
   'PARTOMINA' WHICH IS ON THE OTHER SIDE OF YOUR PLANET."
40  PRINT "IT WAS THE PEASANTS OF THE VILLAGE THAT ASKED YOU TO FALL THE
    REIGN OF ANTRAX."
50  PRINT "YOU ARE ARMED WITH A SWORD,PLATE MAIL ARMOR,SHIELD AND A STUR
   DY BACKPACK."
60  PRINT "YOUR TRANSPORTATION WILL BE A BLACK STALLION WHO YOU CALLED
   THUNDAR'"
65  PRINT : PRINT "PRESS RETURN TO CONTINUE."
66  INPUT S$
70  PRINT "NOW LETS START!!!"
80  PRINT "YOU STAND ON A WINDSWEPT CRAG OVERLOOKING THE VALLEY OF CYCLO
   NES."
90  PRINT "YOU MOUNT UP ON THUNDAR AND GALLOP OFF TO FAME & FORTUNE."
100  PRINT "AS YOU SPEEDING ACROSS THE VALLEY YOU COME ACROSS A OLD WOMA
   N GROVOLLING OVER A DEAD CHILD."
110  PRINT "YOU DISMOUNT AND WALK OVER TO HER.WHEN YOU ARE ABOUT 3 FEET
   AWAY SHE JUMPS AND CHARGES YOU WITH A CANE SWORD."
120  PRINT "YOU BARELY MANAGE TO DODGE THE SHARP POINT OF HER CANE."
130  PRINT "AFTER HER CHARGING(AND MISSING) SEVEN TIMES YOU MANAGE TO GR
   AB HER SWORD,THROW IT AWAY AND CALM HER DOWN."
140  PRINT "YOU ASK HER NAME.THE OLD WOMAN REPLIES.'MY NAME IS ZENDALA'.
   SHE ANSWERS QUICKLY."
150  PRINT : PRINT "PRESS RETURN TO CONTINUE"
160  INPUT S$
170  PRINT "AFTER ANSWERING YOU THE OLD HAG SCUTTLES OFF ACROSS THE CURV
   ED VALLEY."
180  PRINT "IF YOU CHOOSE TO FOLLOW HER PRESS (F) OR (C) TO CONTINUE"
190  INPUT Z$
200  IF Z$ = "F" THEN  GOTO 500
210  IF Z$ = "C" THEN  GOTO 230
220  GOTO 180
230  PRINT "YOU DECIDE THAT THE OLD WOMAN IS NOT WORTH WASTEING TIME ON
   SO YOU PRESS ON ALONG THE VALLEY."
240  PRINT "AFTER MANY HOURS OF TRAVEL YOU DISCOVER THAT YOU ARE TOO TIR
   ED TO CONTINUE SO YOU DECIDE TO REST UNDER A MINIOPOLIS TREE.
250  PRINT "WHEN MORN BREAKS YOU SADDLE UP THUNDAR,GATHER YOUR THINGS AN
   D START ON YOUR MISSION ONCE MORE."
260  PRINT "SOON YOU HAVE IN SIGHT A SMALL TOWN (TO YOUR RELIEF)."
270  PRINT "BY NOON YOU ARE AT THE ENTRANCE OF THE TOWN YOU SAW."
280  PRINT "YOU SEE A SIGNPOST IT READS'POSTOGON'.NOT PARTOMINA."
290  PRINT "YOU ENTER THE TOWN.IT THRIVES WITH SMALL BUSINESSES.YOU SEE
   MANY MERCHANTS."
300  PRINT "YOU ARE HUNGARY WILL YOU STOP AND EAT (S) OR GO ON (G)."
310  INPUT Z$
320  IF Z$ = "S" THEN  GOTO 350
330  IF Z$ = "G" THEN  GOTO 570
335  GOTO 300
350  PRINT "YOU DECIDE TO STOP AND HAVE SOMETHING TO EAT AS YOU ARE VERY
    HUNGRY."
360  PRINT "YOU SEAT YOURSELF TO A SINGLE TABLE.THE WAITER APPROACHES YO
   U AND ASKS YOU WHAT YOU FANCY."
370  PRINT "YOU ASK YOUR FAVOURITES BUT HE HAS NONE OF THEM."
380  PRINT "THE ONLY THING YOU LIKE OUT OF HIS MENU IS THE PLOOSTOE FUNG
   I."
390  PRINT "A LITTLE WHILE LATER THE WAITER RETURNS WITH SOMETHING WHICH
    LOOKS LIKE SPAGHETTI WITH SLOPPY RICE."
400  PRINT "YOU EAT IT UP ALL THE SAME.WASHING DOWN YOUR MEAL WITH A DRI
   NK OF GLOOSEDOWN JUICE."
410  PRINT "AFTER YOUR MEAL YOU PAY THE WAITER AND LEAVE."
420  PRINT "YOU WALK DOWN THE STREET AND SUDDENLY A CRY FOR HELP SCREECH
   ES OUT.NO ONE ELSE SEEMS TO NOTICE."
430  PRINT "BUT YOU DO!!!"
435  PRINT : PRINT "PRESS RETURN TO CONTINUE."
436  INPUT S$
440  PRINT "YOU DASH DOWN A SIDE ALLEY AND TRY AND FIND THE PERSON WHO I
   S YELLING."
450  PRINT "YOU KEEP RUNNING TOWARDS THE 'HELP' OF WHOEVER THAT VOICE MA
   Y BELONG TO."
460  PRINT "FINALLY YOU COME TO A DEAD END.THERE YOU SEE A UGLY FAT WOMA
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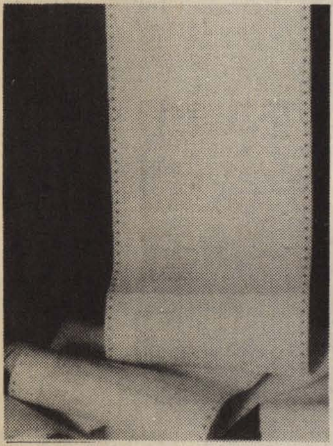

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  N WHO IS CONSTENTLY YELLING FOR WHICH REASON YOU CAN NOT SEE.
470  PRINT "YOU APPROACH THE WOMAN AS TO SEE WHAT THE MATTER IS.SHE YELL
  S ONCE MORE AND POINTS TO A HALF-OPEN DOOR."
480  PRINT "YOU ARE KNOWN FOR YOUR DASH BRAVERY SO YOU LEAP INTO THE DOO
  R.ONCE INSIDE YOU SEE A CROSSBOW AIMED FOR YOUR HEAD."
485  PRINT "IT FIRES. YOU ARE DEAD!!!!"
490  END
500  PRINT "YOU ARE CURIOUS ABOUT THIS OLD WOMAN.YOU FOLLOW HER."
510  PRINT "YOU FOLLOW HER FOR WHAT SEEMS TO BE HOURS.YOU EVENTUALLY CAT
  CH UP TO HER AND GRAB HER BY THE ARM."
520  PRINT "SHE SHRIEKS AND PULLS OUT (THIS TIME) A CANE KNIFE."
530  PRINT "SHE STABS YOU FIRST IN THE STOMACH,THEN IN THE ARM,THEN IN T
  HE LEG.YOU YELP IN PAIN!!!"
540  PRINT "THE OLD WOMAN CACKLES AND MOVES OFF."
550  PRINT "YOU GIVE UP.YOU UNSHEATH YOUR SWORD AND KILL YOURSELF."
560  PRINT "THIS LIFE HAS ENDED!!!"
565  END
570  PRINT "YOU DECIDE NOT TO STOP AND WOULD RATHER GO ON."
580  PRINT : PRINT "PRESS RETURN TO CONTINUE."
585  INPUT S$
590  PRINT "AFTER A BIT OF WINDOW-SHOPPING YOU LEAVE AND CONTINUE ON YOU
  R QUEST."
600  PRINT "FOUR DAYS PASS WITHOUT ANY EXCITEMENT AND FINALLY YOU SEE AN
  OTHER TOWN."
610  PRINT "YOU SEE A SIGNPOST AND TO YOUR DELIGHT IT READS 'PARTOMINA'.
  "
620  PRINT "EVEM FROM A DISTANCE YOU SEE WHY THE PEASANTS CALLED ON YOU.
  "
630  PRINT "THERE ARE GIANT WALLS SURROUNDING THE TOWN AND THEY ARE VERY
   UNCLEAN."
640  PRINT "THE TOWN HAS GUARDS SURROUNDING IT.NOW YOU REALISE IT WILL B
  E DIFFICULT TO ENTER."
650  PRINT : PRINT "PRESS RETURN TO CONTINUE."
656  INPUT S$
660  PRINT "YOU WILL ENTER THE TOWN AT NIGHT BECAUSE DOING IT AT DAY WOU
  LD BE PLAIN MURDER."
670  PRINT "YOU GET YOUR GEAR ORGANISED AND START OUT TOWARD THE ENTRANC
  E GATES."
680  PRINT "YOU ARE EXPECTING GUARDS TO BE GUARDING PARTOMINA SO YOU HAV
  E BROUGHT YOUR SWORD,DAGGER AND SHIELD."
690  PRINT "YOU ARRIVE AT THE GATES.THERE ARE TWO MASSIVE WOODEN DOORS."

700  PRINT "WILL YOU OPEN THE GATE ON THE RIGHT (R) OF THE GATE ON THE L
  EFT (L)."
710  INPUT H$
720  IF H$ = "R" THEN  GOTO 960
730  IF H$ = "L" THEN  GOTO 750
740  PRINT : GOTO 700
750  PRINT "YOU OPEN THE LEFT GATE.TO YOUR SURPRISE THE RIGHT AND LEFT D
  OORS ARE SEPERATED BY A MASSIVE STONE WALL SO YOU CAN'T SEE WHATS ON
   THE OTHER SIDE LOOKS LIKE."
760  PRINT "ON THE WALL YOU SEE A VINE REACHING UP AND OVER THE WALL."
770  PRINT "WILL YOU CLIMB THE WALL (C) OR EXAMINE THE COURTYARD (E)"
780  INPUT Y$
790  IF Y$ = "C" THEN  GOTO 820
800  IF Y$ = "E" THEN  GOTO 50000
810  GOTO 770
820  PRINT "YOU DECIDE TO CLIMB THE VINE TO SEE WHAT'S ON THE OTHER SIDE
  ."
830  PRINT "YOU GRAB THE VINE BUT IT BREAKS!"
840  PRINT "YOU ARE DETERMINED TO SEE WHAT THE OTHER SIDE LOOKS LIKE."
845  PRINT : PRINT "PRESS RETURN TO CONTINUE"
846  INPUT E$
850  PRINT "YOU EXAMINE THE WALL AND SOON FIND ANOTHER VINE.YOU START TO
   CLIMB THE VINE."
860  PRINT "IT TAKES A WHILE BUT YOU SOON GET TO THE TOP."
870  PRINT "ON THE OTHER SIDE YOU SEE A GREAT FIGHT."
880  PRINT "THE FIGHT IS BETWEEN SMARTLY DRESSED SWORDSMEN AND GOBLINS."

890  PRINT "YOU WATCH THE FIGHT FOR A WHILE AND CONSIDER TO FIND OUT FRO
  M ONE OF THE GROUP LEADERS"
900  PRINT "WHAT IS GOING ON."
910  PRINT "YOU ARE ABOUT TO ASK YOURSELF WILL YOU OR NOT"
920  PRINT "WHEN SUDDENLY THE VINE(WHICH YOU HAVE LOOSENED YOUR GRIP ON)
   BREAKS!!"
930  PRINT "YOU FALL AND HIT THE GROUND WITH SUCH IMPACT YOU BREAK YOUR
  NECK."
940  PRINT "YOU ARE DEAD!!!"
950  END
960  PRINT "YOU DECIDE TO OPEN THE RIGHT DOOR."
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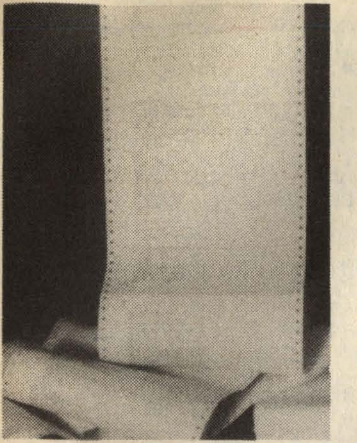

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970  PRINT "WHEN YOU ENTER THE FIRST THING YOU SEE IS A MASSIVE FIGHT!!"

980  PRINT "THE FIGHT IS BETWEEN EVIL-LOOKING GOBLINS AND LAVISHLY DRESS
    ED SWORDSMEN."
990  PRINT "WILL YOU JOIN IN THE FIGHT(J) OR        QUIETLY SNEAK PAST T
    HE FIGHT(S)"
1000  INPUT J$
1100  IF J$ = "J" THEN  GOTO 5000
1200  IF J$ = "S" THEN  GOTO 10000
5000  PRINT "YOU WANT TO JOIN IN."
5005  PRINT "YOU CHARGE A GOBLIN WITH YOUR          TWO-HANDED SWORD.YO
    U CHOP HIS HEAD       CLEAN OFF!"
5010  PRINT "BLOOD SPLATS ON YOUR ARMOR."
5015  PRINT "YOU RUSH 'ROUND CHOPPING GOBLINS TO     PIECES AND FINALLY
  . YOU AND THE          SWORDSMEN DESTROY ALL THE GOBLINS."
5020  PRINT "TO YOUR SURPRISE ONE OF THE            SWORDSMEN IS A SPY
    AND HE LAUNCHES A    CROSSBOW BOLT TOWARDS YOUR HEAD."
5025  PRINT "I T  H I T S! ! !"
5030  PRINT "YOU ARE DEAD.ADVENTURE OVER."
5035  END
10000  PRINT "YOU THINK YOU WILL AVOID THE FIGHT      AND SNEAK PAST."
10010  PRINT "YOU SNEAK IN THE SHADOWS AND TRY TO     PASS THE FIGHT."
10020  PRINT "BUT YOUR LUCK IS NOT AT IT'S BEST AND"
10030  PRINT "ONE OF THE GOBLINS SPOTS YOU."
10040  PRINT "HE COMES RUNNING AT YOU WITH A          TWO-HANDED BATTLE
    AXE!"
10050  PRINT : PRINT "WILL YOU YELL AND PULL OUT YOUR          SWORD FOR
    A FIGHT(P) OR RUN AT THE      NEAREST EXIT(R)"
10060  INPUT G$
10070  IF G$ = "R" THEN  GOTO 10100
10080  IF G$ = "P" THEN  GOTO 20000
10090  GOTO 10050
10100  PRINT "YOU COWARDLY MAKE FOR AN EXIT."
10110  PRINT "YOU RUN LIKE THE WIND BUT AS YOU ARE    SPEEDING FOR THE E
    XIT ONE OF THE         GOBLINS ARROWS"
10115  PRINT "HITS YOU IN THE BACK OF THE NECK."
10120  PRINT "IT IS POISONED!"
10130  PRINT
10140  PRINT "YOU FALL TO THE GROUND DEAD!!"
10150  PRINT
10160  PRINT "YOU WILL NOT BE WASTED BECAUSE THE      GOBLINS EAT YOU AS
     SOON AS THEY WIN     THE BATTLE."
10170  END
20000  PRINT "YOU ARE NO COWARD AND YOU ARE GOING TO  FIGHT THIS RUDE AN
    D ANNOYING GOBLIN."
20010  PRINT "YOU ATTACK AND TAKE A SLICE OUT OF THE  GOBLINS STUBBY SHO
    ULDER."
20020  PRINT "HE YELLS IN AGONY AND FALLS TO THE GROUND,DEAD."
20030  PRINT "YOU ARE GLAD THE ATTACKER HAS FALLEN."
20040  PRINT "YOU PROCIDE TO A SMALL STORE ROOM       WHICH INSIDE YOU F
    IND A BOX WITH A       SMALLER BOX INSIDE IT."
20050  PRINT "YOU OPEN THE BOX AND INSIDE YOU FIND    A MAGIC-BLAST WAND
     AND A WICK."
20060  PRINT "ALSO WITH THIS YOU FIND A SMALL NOTE."
20070  PRINT "IT READS,'WELCOME TRASHER I HOPE YOU HAD A SAFE JOURNEY.TH
    ESE ARE THE THINGS WHICH YOU WILL USE TO BLOW UP ANTRAX'S CASTLE.'"
20075  PRINT : PRINT "PRESS RETURN TO CONTINUE"
20076  INPUT Y$
20080  PRINT "YOU MAY OR MAY NOT KNOW THAT THIS IS ANTRAX'S CASTLE.  YOU
     MUST VENTURE TO THE EASTERN WALL OF THE CASTLE,PLACE DOWN THE WAND,
    LIGHT THE FUSE,"
20090  PRINT "AND GET OUT OF THERE!!!"
20100  PRINT "YOU PUT THESE THINGS IN YOUR POCKET     AND HEAD OFF THROU
    GH THE COURTYARD."
20110  PRINT "YOU EVENTUALLY FIND THE CASTLE AND      PRESS ON TOWARDS I
    T."
20120  PRINT "YOU THROW YOUR ROPE UP AND OVER THE     HIGH WALL WHICH SU
    RROUNDS THE CASTLE."
20130  PRINT "YOU CLIMB UP YOUR ROPE AND ON TO THE WALL."
20140  PRINT "YOU HAVE THE CASTLE IN YOUR SIGHT AND   JUMP OFF THE WALL.
    "
20150  PRINT "YOU ARRIVE AT THE BOTTOM OF THE         CASTLE AND ONCE AG
    AIN THROW UP YOUR ROPE."
20160  PRINT "IT LANDS SUCCESSFULLY ON THE EDGE OF    THE CASTLE WINDOW.
    "
20170  PRINT "IT IS A LONG AND TIRESOME CLIMB BUT     YOU EVENTUALLY MAK
    E IT."
20175  PRINT "PRESS RETURN TO CONTINUE"
20178  INPUT Y$
20180  PRINT "YOU CAN SEE INSIDE THE DIMLY-LIT ROOM."
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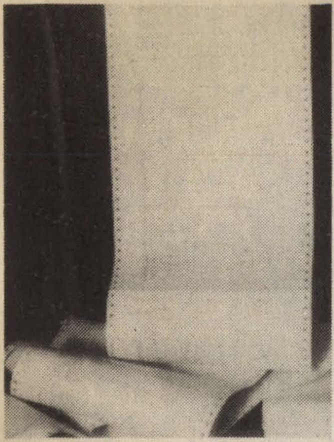

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20190  PRINT "YOU SEE A LARGE DARK MAN READING        QUIETLY AT A DESK.
    "
20200  PRINT "YOU ARE IN SUCH A GOOD VEIWING SPOT      YOU CAN EVEN READ
    THE NAME OF THE        BOOK HE IS READING."
20210  PRINT "IT IS CALLED 101 WAYS TO FRY A          DWARF."
20220  PRINT "YOU LEAP IN AND PLANT YOUR SWORD        THROUGH HIM AND TH
    EN SLIP QUIETLY        AWAY INTO THE SHADOWS."
20230  PRINT "YOU CLIMB DOWN THE ROPE,OVER THE WALL   AND INTO THE COURT
    YARD."
20240  PRINT "YOU SLIP AWAY FROM THE FIGHT OF THE GOBLINS AND SWORDSMEN
    AND OFF INTO THE DARKNESS."
20250  PRINT "ONCE OUTSIDE YOU REALISE THAT YOU       HAVE FORGOTTEN SOM
    ETHING."
20255  PRINT "PRESS RETURN TO CONTINUE"
20258  INPUT D$
20260  PRINT "TO BLOW-UP THE CASTLE.YOU ANNOYED       WITH YOUR FORGETFU
    LNESS RUN BACK         TOWARDS THE CASTLE AND COURTYARD."
20270  PRINT "YOU SLIP ONCE MORE PAST THE FIGHT       AND TOWARDS THE CA
    STLE."
20280  PRINT "YOU THROW YOUR ROPE OVER THE HIGH       WALL SURROUNDING T
    HE CASTLE AND          CLIMB OVER."
20290  PRINT "ONCE ON THE OTHER SIDE OF THE WALL      YOU PROCEED TOWARD
    S THE CASTLE."
20300  PRINT "YOU CAREFULLY REMOVE THE BLAST-WAND     AND THE WICK AND S
    TART TO ROLL OUT       THE WICK."
20310  PRINT "ONCE FAR ENOUGH AWAY YOU LIGHT THE WICK AND RUN!"
20320  PRINT "YOU QUICKLY HALF-JUMP AND HALF-CLIMB    OVER THE WALL AND
    SPEED OUT OF THE       GATES."
20325  PRINT "PRESS RETURN TO CONTINUE"
20328  INPUT S$
20330  PRINT "AS YOU ARE GALLOPING OFF IN THE DIRECTION OF HOME YOU HEAR
     AN ENORMOUS EXPLOSION!"
20340  PRINT "YOU TURN AROUND AND SEE THE CASTLE      AND BOTH COURTYARD
    S DESTROYED."
20350  PRINT "WELL DONE TRASHER YOU HAVE COMPLETED    YOUR MISSION."
20360  PRINT : PRINT "WHEN YOU RETURN TO YOUR VILLAGE            THERE ARE
    MANY PEASANTS EATING AND DRINKING."
20370  PRINT "THE MAYOR OF PARTOMINA APPROACHES YOU   AND SAYS'FRIENDS M
    AY I HAVE YOUR         ATTENTION?"
20380  PRINT "EVERYONE FALLS SILENT."
20390  PRINT "WE ARE ALL HERE TO REJOICE ONTO THIS    FINE WARRIOR,ADVEN
    TURER AND MAN."
20400  PRINT : PRINT "PRESS RETURN TO CONTINUE"
20405  INPUT D$
20410  PRINT "YOU, TRASHER HAVE SAVED PARTOMINA MY    TOWN FROM ALMOST I
    MEDIATE DESTRUCTION.
20420  PRINT "YOU MAY OR MAY NOT KNOW,IT DOESN'T      MATTER NOW BUT ANT
    RAX WAS PLANNING ON   RAIDING"
20430  PRINT "PARTOMINA AND THERE WOULD BE A MASS SLAUGHTER OF MY PEOPLE
    ."
20440  PRINT "I WAS INFORMED ABOUT THIS BY ONE OF     MY PERSONAL SPIES.
    HE CAME TO ME          TELLING ME ALL THAT I HAVE TOLD YOU."
20450  PRINT "FOR THE DANGER,FIGHTING AND MANY MORE   TREACHEROUS THINGS
     YOU HAVE FACED        TRASHER"
20460  PRINT "I AM AWARDING YOU A BADGE OF HONOUR     AND 400,000 GOLD P
    IECES."
20470  PRINT "YOU SAY A SMALL SPEECH AND YOU ARE  AWARDED THE MONEY AND
    MEDAL AND THEN YOU RETURN TO YOUR QUIET LITTLE HUT"
20480  PRINT "TO BE AN HONOURED CITIZEN FOR EVER."
20490  PRINT "T H E  E N D"
20500  END
50000  PRINT "YOU THINK YOU WILL TAKE A CLOSER        LOOK AT THE COURTY
    ARD."
50010  PRINT "YOU CAN SEE A SMALL FOUNTAIN IN THE     MIDDLE OF THE YARD
     AND SOME WOVEN        TAPASTRIES ON THE LEFT WALL."
50020  PRINT "DO YOU WANT TO LOOK AT THE              TAPASTRIES(A) OR I
    NSPECT THE SMALL       FOUNTAIN(B)."
50030  INPUT Q$
50040  IF Q$ = "A" THEN  GOTO 50060
50050  IF Q$ = "B" THEN  GOTO 50100
50060  PRINT "THE TAPASTRIES ARE WOVEN OF FINE CANE AND PICTURE A GOLD D
    RAGON CHASING SOME DWARVES."
50070  PRINT "ANOTHER PICTURES A FAIR MAIDEN          STROKING A SMALL B
    IRD."
50080  PRINT "THE TAPASTRIES ARE OF NO VALUE."
50081  PRINT "YOU MAY EITHER LOOK AT THE FOUNTAIN (B) OR CLIMB THE VINE
    (C)"
50082  INPUT X$
50083  IF X$ = "B" THEN  GOTO 50100
50084  IF X$ = "C" THEN  GOTO 820
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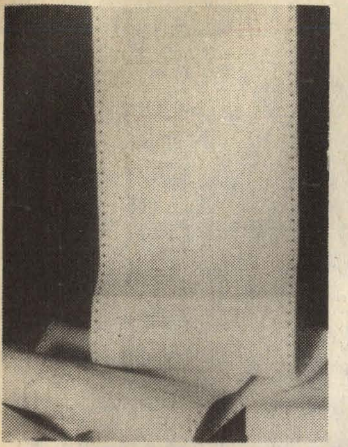

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50085  GOTO 50081
50100  PRINT "YOU DECIDE TO LOOK AT THE SMALL FOUNTAIN"
50110  PRINT "PRESS RETURN TO CONTINUE"
50120  INPUT O$
50130  PRINT "THE FOUNTAIN BUBBLES UP LIGHT COOL-LOOKING FLOWING WATER A
    ND GENTLY TRICKLES DOWN A FLOWER-SHAPED STEM-LOOKING PART THAT THE W
    ATER COMES OUT OF."
50140  PRINT "YOU CAN EITHER HAVE A DRINK FROM THE FOUNTAIN(D) OR EXAMIN
    E UNDERNEATH THE FOUNTAIN(U)"
50150  INPUT W$
50160  IF W$ = "D" THEN  GOTO 50190
50170  IF W$ = "U" THEN  GOTO 50530
50180  GOTO 50140
50190  PRINT "YOU THINK YOU WILL HAVE A DRINK FROM THE FOUNTAIN"
50200  PRINT "PRESS RETURN TO CONTINUE"
50210  INPUT Q$
50220  PRINT "YOU CUP YOUR HANDS AND DIG DEEP INTO THE COOL,GLITTERING W
    ATER AND FILL YOUR HANDS.THEN YOU RETRACT YOUR HANDS FROM THE WATER
    AND POUR IT DOWN YOUR THIRST-QUENCHED THROAT."
50230  PRINT "THE WATER TASTES BEAUTIFUL AND IT SPARKLES IN YOUR STOMACH
     WITH ALL THE FRESHNESS THAT YOU HAVE EVER TASTED."
50240  PRINT "YOU HAVE MANY HAND-CUP-FULLS OF WATER UNTIL YOU START TO F
    EEL DIZZY."
50250  PRINT "YOU SLUMP TO THE GROUND NOT KNOWING WHAT HAS COME OVER YOU
    .YOU ARE BECOMING INCREASINGLY SLEEPY AND EVENTUALLY DOZE OFF TO SLE
    EP."
50260  PRINT "WHEN YOU WAKE YOU FIND THAT YOU PACK,SWORD,SHEILD AND EVEN
     ARMOR IS ALL MISSING.YOU LOOK AROUND BUT NO ONE IS TO BEEN SEEN."
50270  PRINT "YOU EVENTUALLY,ANNOYED WITH THESE GOINGS-ON WALK BACK OVER
     TO THE FOUNTAIN AND STARE INTO IT."
50280  PRINT "INSIDE THE WATER YOU SEE ALL YOUR MISSING EQUIPMENT SLOWIN
    G FLOATING AWAY.YOU USELESSLY GRASP INTO THE WATER FOR YOUR POSSESSI
    ONS BUT THEY ARE ONLY IN WHAT YOU SEE,THEY ARE LONG GONE!"
50290  PRINT "I THINK YOU ARE IN DEEP TROUBLE,BECAUSE YOU CAN HERE SOME
    MOVEMENT APPROACHING AROUND THE CORNER."
50300  PRINT "PRESS RETURN TO CONTINUE"
50310  INPUT X$
50320  PRINT "YOU MUST ACT QUICKLY!"
50330  PRINT "WILL YOU DIVE BEHIND A BUSH(D)OR STAND AND FACE WHOEVER OR
     WHATEVER IS MAKING THAT NOISE(S)"
50340  INPUT Y$
50350  IF Y$ = "S" THEN  GOTO 50380
50360  IF Y$ = "D" THEN  GOTO 50460
50370  GOTO 50330
50380  PRINT "YOU ARE MORE INQUISITIVE THAN FRIGHTENED SO YOU STAND YOUR
     GROUND."
50390  PRINT "YOU STAND YOUR GROUND ONLY TO SEE 3 GOBLIN GUARDS WITH SPE
    ARS!"
50400  PRINT "THEY IMMEDIATELY SPOT YOU AND ONE HURLS A SPEAR AT YOU,IT
    MISSES,THUDDING INTO THE GROUND BESIDE YOU."
50410  PRINT "YOU TRY AND FIND SOMEWHERE TO HIDE BUT THEY HAVE CORNERED
    YOU OFF FROM THE EXIT AND THE BUSHES."
50420  PRINT "YOU CAN DO NOTHING BUT WAIT FOR THEIR NEXT MOVE."
50430  PRINT "ANOTHER GOBLIN HURLS A SPEAR AND IT THUDS INTO YOUR CHEST.
     THE GOBLINS GLEEFULLY WATCH AS YOU SLUMP TO THE GROUND IN PAIN. THO
    UGH DON'T WORRY,THE GOBINS ARE QUITE HUNGRY AND YOU WILL NOT BE WAST
    ED."
50440  PRINT "YOU ARE DEAD.ADVENTURE OVER."
50450  END
50460  PRINT "YOU DON'T TAKE ANY CHANCES WITH THIS NOISE AND YOU HIDE BE
    HIND SOME BUSHES."
50470  PRINT "ONLY TO SEE A SMALL WHITE RABBIT HOP FROM AMONGST SOME BUS
    HES."
50480  PRINT "THE RABBIT RAISES ITS NOSE INTO THE AIR,LOOKS IN YOUR DIRE
    CTION AND THEN HOPS OUT OF THE COURTYARD AROUND THE GATE."
50490  PRINT "YOU THINKING WHAT A FOOL YOU ARE GET OUT FROM THE BUSHES A
    ND FOLLOW THE RABBIT IN HOPE OF FINDING YOUR POSSESSIONS."
50500  PRINT "YOU FOLLOW THE RABBIT OUTSIDE NEAR THUNDAR WHERE THR RABBI
    TS TRANSFORMES INTO A PIXIE AND FLIES OFF."
50510  PRINT "ALL YOUR GEAR SUDDENLY APPEARS ABOUT YOUR PERSON AND YOU W
    ALK INTO THE DOOR ON THE RIGHT,WHILST CURSING PIXIES."
50520  GOTO 970
50530  PRINT "YOU DECIDE TO LOOK UNDER THE FOUNTAIN."
50540  PRINT "PRESS RETURN TO CONTINUE"
50550  INPUT P$
50560  PRINT "YOU GO DOWN ON YOUR KNEES AND CAREFULLY EXAMINE UNDER THE
    FOUNTAIN. YOU FIND A LOOSE PIECE OF MOULD WHICH YOU PULL OUT AND BRE
    AK OPEN."
50570  PRINT "INSIDE THIS PIECE OF MOULD YOU FIND A SMALL BLACK BOX."
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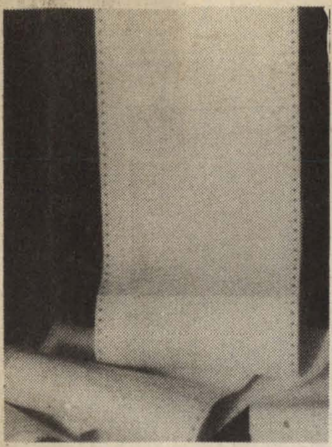

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50580  PRINT "WILL YOU EITHER OPEN THE BOX(O),SMASH THE BOX WITH YOUR SW
    ORD(S)OR HAVE A DRINK FROM THE FOUNTAIN(D)"
50590  INPUT X$
50600  IF X$ = "D" THEN  GOTO 50190
50610  IF X$ = "S" THEN  GOTO 50640
50620  IF X$ = "O" THEN  GOTO 50750
50630  GOTO 50580
50640  PRINT "YOU WILL TRY TO SMASH THE BOX OPEN WITH YOUR SWORD."
50650  PRINT : PRINT "PRESS RETURN TO CONTINUE"
50660  PRINT "YOU UNSHEATH YOUR SWORD,ITS BLADE GLIMMERING BY THE MOON I
    TS HILT GLOWING WITH RADIANCE OF WELL DONE DEEDS,SHARP ENOUGH TO CUT
     ROCK CLEANLY IN TWO."
50670  PRINT "YOU RAISE YOUR SWORD ABOVE YOUR HEAD WITH TWO HANDS PAUSE
    FOR A MOMENT THEN BRING DOWN WITH ALL YOUR STRENGTH ONTO THE SMALL B
    OX."
50680  PRINT "UPON IMPACT WITH YOUR SWORD APON THE BOX THE BOX EXPLODES
    INTO THOUSANDS OF DIFFERENT COLOURED LIGHTS EACH WITH ITS OWN BRILLI
    ANCE AND THROWS YOU BACK 5 FEET."
50690  PRINT "FROM WITHIN THE BOX A LARGE SHADOW ARISES,THE LIGHTS GO OU
    T AND THE SHADOW RISES HIGH INTO THE AIR THEN SWOOPS DOWN APON YOU A
    ND GRASPS YOU IN ITS POWERFUL TALONS."
50700  PRINT "IT TAKES YOU UP HIGHER AND HIGHER UNTIL YOU ARE ALMOST BRE
    ATHLESS."
50710  PRINT "THEN THE SHADOW STOPS SUDDENLY THEN DECENDS STRAIGHT TOWAR
    DS THE EARTH.YOU STRUGGLE AS TO REGAIN POWER OVER YOU BODY BUT YOU A
    RE GRASPED VERY TIGHTLY."
50720  PRINT "THE SHADOW SINKS STRAIGHT THROUGH THE EARTH BUT YOU(APON I
    MPACT) SPLAT EVERYWHERE NEVER TO BEEN FOUND AGAIN."
50730  PRINT "YOU ARE DEAD.ADVENTURE OVER."
50740  END
50750  PRINT "YOU DECIDE TO OPEN THE SMALL BOX."
50760  PRINT "PRESS RETURN TO CONTINUE"
50770  INPUT A$
50780  PRINT "YOU CAREFULLY LIFT THE BOX LID AND INSIDE YOU FIND A SMALL
     JEWEL-DOTTED RING."
50790  PRINT "WILL YOU PLACE THE RING IN YOUR BACKPACK AND GO AROUND THR
    OUGH THE RIGHT DOOR (G) OR WILL YOU PUT THE RING ON AND SEE WHAT HAP
    PENS (P)"
50800  INPUT A$
50810  IF A$ = "G" THEN  GOTO 50840
50820  IF A$ = "P" THEN  GOTO 50850
50830  GOTO 50790
50840  PRINT "YOU PUT THE RING IN YOUR BACKPACK THEN ";: GOTO 960
50850  PRINT "YOU CAREFULLY SLIDE THE RING ON YOUR INDEX FINGER AND AFTE
    R A FEW SECONDS THE RINGS GROWS VERY TIGHT AROUNG YOU FINGER AND YOU
     CAN'T GET IT OFF!!"
50860  PRINT "YOU TRY DESPERATELY TO GET THE RING OFF BUT IT IS STUCK FA
    ST TO YOUR FINGER. YOU SIT DOWN ON A NEARBY LOG AND TRY TO THINK OF
    WHAT TO DO NEXT,WHEN THE RING SUDDENLY LETS OUT A BRILLIANT FLASH OF
     WHITE LIGHT."
50861  PRINT "YOU FALL OFF THE LOG IN AMAZEMENT."
50870  PRINT "THE RING PULLS AT YOUR FINGER AS IF TO LEAD YOU SOMEWHERE.
    YOU FOLLOW."
50880  PRINT "THE RING ENDS UP LEADING YOU TO THE TAPASTRIES WHERE IT GI
    VES OUT ANOTHER RADIANT FLASH OF BRILLIANT WHIT LIGHT AND IT SHOOTS
    A LIGHTNING BOLT ONTO THE TAPASTRIE WITH THE DRAGON AND THE DWARVES
    ON IT."
50890  PRINT "YOU EXPECT THAT THE TAPASTRIE WOULD CATCH ALIGHT BUT THE F
    IGURES DISAPPEAR AND REAPEER RIGHT BEHIND YOU AND THE DRAGON CHASES
    THE DWARVES WHILE THE MAIDEN STROKES A SMALL BIRD(AS IN THE TAPASTRI
    ES)."
50900  PRINT "YOU SHOCKED WITH THE EVENTS RUN OUT OF THE COURTYARD WHERE
     ";: GOTO 960
```

NUMBER RUNNER

Okay space cadets, you've saved the Earth before, and here's your chance to save it again!

Unfortunately the Cray supercomputer that normally handles the Earth's defences has broken down. Luckily you had your Apple on hand, so you connected it to the defence systems just before the attack. Due to the fact that your Apple doesn't have the processing capabilities of a Cray, the defence systems need your help!

Your screen will show the aliens (called runners) as they attack, but the computer can't work out the code that is required to break the aliens' force field thereby destroying them. Instead an equation will be shown, and you will have to use quick mental arithmetic to work out the code, before the runner reaches the left side of the screen. You have three lives with which to save our world — GOOD LUCK!

The keys used are:

A — to move laser up,
Z — move laser down,
Return — fire laser,
0-9 — enter code number,
/ — clear code number,
Esc — pause and
Ctrl-Q — quit

Once run, a scrolling front page will be presented, but when you press a key, the screen will clear and you will be confronted by a menu.

'TYPE' refers to the type of questions you will encounter. Inputting a '1' and pressing <RETURN> will roll the type of questions between addition, subtraction, multiplication, division, and a mixture of the above. 'SPEED' refers to the speed at which the runners move. The speeds allowed are between 1 and 10, where 10 is the fastest speed.

'SKILL' refers to the skill level (how hard the questions are) and is also a number between 1 and 10, where 10 is the hardest. 'RUNNERS' refers to the maximum amount of runners on-screen at one time. The maximum amount is 12, yet the game becomes way too slow. Pressing '5' will then start the game.

This program can even be modified, without too much trouble, to teach spelling instead. The questions could be incorrectly spelt words, while the code would have to be the correctly spelt word. Geography can

```
10  DIM SP(18),PO(18),QU$(18),AN(18)
20 LE = 1:SK = 1:S = 1:N1 = 3
30  GOTO 1550
40  HOME
50  VTAB GP: HTAB 1: PRINT "!>-";
60  FOR X = 3 TO 18
70  IF SP(X) = 0 THEN  NEXT X: GOTO 120
80 PO(X) = PO(X) - SP(X) * S
90  IF PO(X) < 4 THEN 1080
100  VTAB (X): HTAB ( INT (PO(X))): PRINT QU$(X);
110  NEXT X
120  REM


130 A =  PEEK ( - 16384)
140  IF A < 128 THEN 420
150  POKE  - 16368,0
160  IF A = 145 THEN  TEXT : HOME : GOTO 1420
170  IF A = 155 THEN 980
180  IF A = 141 THEN SH = SH + 1: GOTO 270
190  IF A = 193 THEN GP = GP - 1: IF GP < 3 THEN GP = 3
200  IF A = 218 THEN GP = GP + 1: IF GP > 18 THEN GP = 18
210 A = A - 176
220  IF A =  - 1 THEN NU = 0: VTAB 23: HTAB 20: PRINT "    ";
230  IF A > 9 OR A < 0 OR NU >  = 999 THEN 420
240 NU = NU * 10 + A
250  GOTO 420
260  REM


270  VTAB GP: HTAB 1
280  IF NU = 0 THEN 300
290  IF NU = AN(GP) THEN  GOTO 320
300  PRINT "!>";LI$;
310  GOTO 420
320  PRINT "!>"; LEFT$ (LI$,(PO(GP) - 2));"****"
330 A =  PEEK ( - 16336):A =  PEEK ( - 16336):A =  PEEK ( - 16336):A =  PEEK
     ( - 16336)
340 SP(GP) = 0
350 NU = 0
360  VTAB 23: HTAB 20: PRINT "   ";
370 HI = HI + 1
380 H1 = HI / 25: IF H1 =  INT (H1) THEN S = S + .1
390 NI = NI - 1
400 PO(GP) = 30:AN(GP) = 0
410  REM


420  VTAB 20: HTAB 15: PRINT HI;: HTAB 25: PRINT LI;
430  VTAB 21: HTAB 15: PRINT SH;
440  VTAB 23: HTAB 20: PRINT NU;
450  REM


460  IF NI >  = N1 THEN 40
470  ON LE GOSUB 530,590,650,710,770
480 R =  INT ( RND (1) * 15 + 3)
490  IF SP(R) <  > 0 THEN 40
500 SP(R) =  RND (1)
510 AN(R) = R3:QU$(R) = "<" +  STR$ (R1) + SI$ +  STR$ (R2) + ">"
520 NI = NI + 1: GOTO 40
530 R1 =  INT ( RND (1) * 13 * SK) + 1
540 R2 =  INT ( RND (1) * 13 * SK) + 1
550 R3 = R1 + R2
560 SI$ = "+"
570  IF R3 < (10 * SK) THEN 530
580  RETURN
590 R1 =  INT ( RND (1) * SK * 40) + 1
600 R2 =  INT ( RND (1) * SK * 10) + 1
610 R3 = R1 - R2
620 SI$ = "-"
630  IF R3 < (SK * 10) THEN 590
640  RETURN
650 R1 =  INT ( RND (1) * SK * 2) + 1
660 R2 =  INT ( RND (1) * SK * 2) + 1
670 R3 = R1 * R2
680 SI$ = "*"
690  IF R3 < (2 * SK * SK) THEN 650
700  RETURN
710 R2 =  INT ( RND (1) * SK * 2) + 1
720 R3 =  INT ( RND (1) * SK * 3) + 1
730 R1 = R2 * R3
740 SI$ = "/"
750  IF R1 < (SK * SK) THEN 710
760  RETURN
```

also be taught; where capital cities are the Runners, and the code is the associate country. In both of these examples the question and answers could be stored as DATA statements.

The program can be split up into separate parts:

Line 40-110 — Update runner positions.
130-250 — Check keyboards.
270-400 — A shot is fired — hit or miss.
420-440 — Score update.
460-790 — Generate questions and answers.
810-1060 — A subroutine to do while pausing the game.
1080-1400 — A hit! — a runner made it all the way across the screen.
1420-1530 — GAME OVER — update high score if required.
1550-1770 — Generate a border around screen — and set the text window inside it.
1790-2020 — Print scrolling front page.
2030-2200 — Input the category.
2220-2270 — Initialise variables.
2280-2310 — Subroutine used in scrolling the front page.

S. Bauer
Upwey Vic.

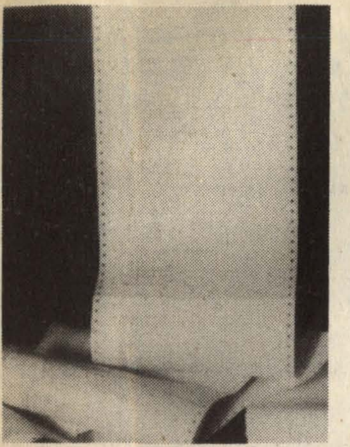
```
770 R4 =  INT ( RND (1) * 3) + 1
780  ON R4 GOSUB 530,590,650,710
790  RETURN
800  REM

810  TEXT : HOME
820  INVERSE : HTAB 14: PRINT "NUMBER RUNNER"
830  VTAB 20: HTAB 9: PRINT "SCORE:";: HTAB 19: PRINT "LIVES:"
840  VTAB 21: HTAB 9: PRINT "SHOTS:";
850  VTAB 23: HTAB 13: PRINT "ANSWER:";
860  NORMAL
870  POKE 34,2: POKE 35,18
880 A =  FRE (0)
890 GP = 3
900  FOR X = 3 TO 18
910 SP(X) = 0
920 PO(X) = 30
930  NEXT X
940 NI = 0
950 NU = 0
960  GOTO 40
970  REM

980 PA$ = "PAUSING...PAUSING...PAUSING...PAUSING...PAUSING..."
990  FOR X = 1 TO 10
1000  VTAB 12: HTAB 1
1010  PRINT  MID$ (PA$,X,37)
1020  IF  PEEK ( - 16384) > 128 THEN  GOTO 40
1030 A =  PEEK ( - 16336)
1040  FOR Y = 1 TO 20: NEXT Y
1050  NEXT X
1060  GOTO 990
1070  REM

1080  GR
1090  COLOR= 1
1100  VLIN 12,27 AT 9
1110  PLOT 10,27
1120  VLIN 21,27 AT 11
1130  PLOT 12,21: PLOT 13,21
1140  VLIN 21,27 AT 14
1150  PLOT 15,27
1160  VLIN 12,27 AT 16
1170  PLOT 15,12
1180  VLIN 12,18 AT 14
1190  PLOT 13,18: PLOT 12,18
1200  VLIN 12,18 AT 11
1210  PLOT 10,12
1220  VLIN 12,27 AT 19
1230  PLOT 20,27
1240  VLIN 12,27 AT 21
1250  PLOT 20,12
1260  VLIN 12,16 AT 24
1270  VLIN 12,16 AT 30
1280  VLIN 16,27 AT 26
1290  VLIN 16,27 AT 28
1300  HLIN 25,29 AT 12
1310  PLOT 25,16: PLOT 29,16
1320  PLOT 27,27
1330  FOR X = 1 TO 100
1340 A =  PEEK ( - 16336)
1350  NEXT X
1360 LI = LI - 1
1370  IF LI = 0 THEN 1420
1380  PRINT : PRINT : PRINT : PRINT "PRESS A KEY TO START AGAIN"
1390  GET QQ$
1400  GOTO 810
1410  REM

1420  PRINT " GAME OVER"
1430  IF SH = 0 THEN PE = 0: GOTO 1450
1440 PE =  INT (HI / SH * 100)
1450  PRINT "YOUR PERCENTAGE:";PE
1460  PRINT "YOUR SCORE:";HI
1470  FOR X = 1 TO 5: PRINT  CHR$ (7);: NEXT X
1480  FOR X = 1 TO 1000: NEXT X
1490  IF HS = HI AND PE > HP THEN HP = PE: PRINT "YOU GOT THE SAME SCORE
    BUT A HIGHER      PERCENTAGE!"
1500  IF HI > HS THEN HS = HI:HP = PE: PRINT "YOU GOT THE TOP SCORE"
1510  PRINT "PRESS A KEY"
1520  GET A$
1530  GOTO 1550
1540  REM
```



```
1550  TEXT : HOME
1560  INVERSE
1570  VTAB 1
1580  FOR X = 1 TO 40
1590  HTAB X
1600  PRINT "*";
1610  NEXT X
1620  FOR X = 2 TO 23
1630  VTAB X: HTAB 40
1640  PRINT "*";
1650  NEXT X
1660  VTAB 23
1670  FOR X = 39 TO 1 STEP  - 1
1680  HTAB X
1690  PRINT "*";
1700  NEXT X
1710  FOR X = 22 TO 2 STEP  - 1
1720  VTAB X: HTAB 1
1730  PRINT "*";
1740  NEXT X
1750  POKE 34,2: POKE 35,21: POKE 32,2: POKE 33,36
1760  NORMAL
1770  FOR X = 1 TO 20: PRINT : NEXT X
1780  GOTO 1990
1790  PRINT "*   * *   * *   * ***  **** ***": GOSUB 2280
1800  PRINT "**  * *   * ** ** *  * *    *  *": GOSUB 2280
1810  PRINT "* * * *   * * * * ***  **   ***": GOSUB 2280
1820  PRINT "*  ** *   * *   * *  * *    * *": GOSUB 2280
1830  PRINT "*   *  **** *   * ***  **** *  *": GOSUB 2280
1840  PRINT : GOSUB 2280: PRINT : GOSUB 2280
1850  PRINT "   ***  *   * *   * *   * **** ***": GOSUB 2280
1860  PRINT "   *  * *   * **  * **  * *    *  *": GOSUB 2280
1870  PRINT "   ***  *   * * * * * * * **   ***": GOSUB 2280
1880  PRINT "   * *  *   * *  ** *  ** *    * *": GOSUB 2280
1890  PRINT "   *  *  **** *   * *   * **** *  *": GOSUB 2280
1900  PRINT : GOSUB 2280: PRINT : GOSUB 2280
1910  INVERSE : HTAB 13: PRINT "BY STEVE BAUER": NORMAL : GOSUB 2280
1920  PRINT : GOSUB 2280
1930  PRINT "HIGHEST SCORE :"HS" AT "HP"%"
1940  GOSUB 2280
1950  PRINT : GOSUB 2280
1960  PRINT "LAST SCORE :"HI" AT "PE"%"
1970  GOSUB 2280
1980  PRINT : GOSUB 2280
1990  FLASH : PRINT "PRESS ANY KEY TO START": NORMAL
2000  GOSUB 2280
2010  PRINT : GOSUB 2280
2020  GOTO 1790
2030  HOME
2040  INVERSE
2050  VTAB 5: PRINT "ENTER THE CATEGORY"
2060 NA$(1) = "ADDITION":NA$(2) = "SUBTRACTION":NA$(3) = "MULTIPLICATION"
    :NA$(4) = "DIVISION":NA$(5) = "ALL"
2070  PRINT : PRINT
2080  PRINT "1 - TYPE:";: NORMAL : PRINT NA$(LE)
2090  INVERSE : PRINT "2 - SPEED:";: NORMAL : PRINT S * 5
2100  INVERSE : PRINT "3 - SKILL:";: NORMAL : PRINT SK
2110  INVERSE : PRINT "4 - RUNNERS:";: NORMAL : PRINT N1
2120  PRINT : FLASH : PRINT "5 - START GAME"
2130  INVERSE : PRINT : PRINT : PRINT
2140  INPUT "INPUT NUMBER TO CHANGE";NN
2150  NORMAL
2160  IF NN = 1 THEN LE = LE + 1: IF LE > 5 THEN LE = 1
2170  IF NN = 2 THEN  INPUT "ENTER SPEED";SS:S = SS / 5: IF SS > 10 OR SS
    < 0 THEN 2170
2180  IF NN = 3 THEN  INPUT "ENTER SKILL LEVEL";SK: IF SK > 10 OR SK < 0 THEN
    GOTO 2180
2190  IF NN = 4 THEN  INPUT "ENTER AMOUNT OF RUNNERS";N1: IF N1 < 1 OR N1
    > 12 THEN 2190
2200  IF NN <  > 5 THEN  GOTO 2030
2210  REM

2220 LI = 3
2230 LI$ = "-----------------------------------"
2240 NU = 0
2250 SH = 0
2260 HI = 0
2270  GOTO 810
2280  IF  PEEK ( - 16384) > 127 THEN  POP : GOTO 2030
2290 A =  PEEK ( - 16336)
2300 A =  PEEK ( - 16336)
2310  FOR X = 1 TO 200: NEXT X: RETURN

]
```

COMMODORE 64

RAM SAVING AND LOADING ROUTINE

This routine allows blocks of RAM anywhere in memory to be saved on disk or for programs loaded into any place in memory. It may also be used to save or load machine language programs, sprite data, character sets or hires and screens. The saving/-loading is done by means of machine language routines which use the Kernal subroutines SAVE, SETLFS, SETNAM and LOAD.

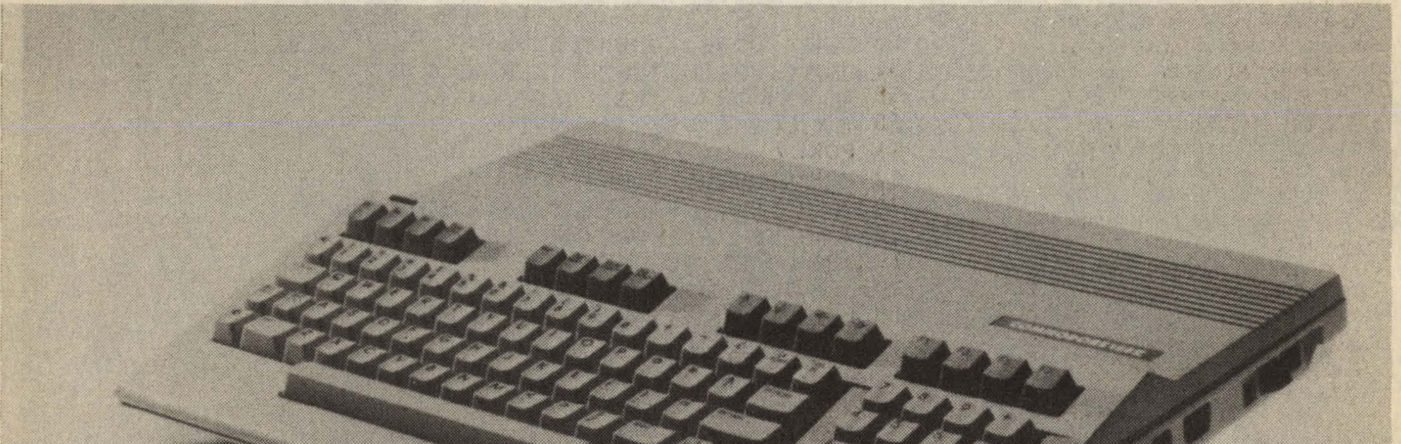
The length of the filename is stored in location 2. The pointers to the start/end of RAM are stored in locations 251-254. The file name is stored in memory starting at 49152.

G. Harland
Elizabeth Downs SA

```
1 REM  ***************************
2 REM  * RAM SAVING AND LOADING *
3 REM  *        ROUTINE          *
4 REM  *          BY             *
5 REM  *      G.R. HARLAND       *
6 REM  ***************************
7 :
8 :
9 POKE53281,0:POKE53280,0
10 PRINT"[CLR][GRN][DOWN]"
11 PRINT"SAVING AND LOADING RAM"
12 PRINT"[DOWN]"
15 PRINT"DO YOU WISH TO:-"
16 PRINT"[DOWN]"
20 PRINT"      SAVE RAM..............F1"
33 PRINT"      LOAD RAM..............F3"
40 PRINT"      EXIT PROGRAM..........F5"
43 OPEN15,8,15:INPUT#15,A$,B$,C$,D$:CLOS
E15
45 PRINT"[DOWN][DOWN]DISK STATUS:";A$;"
";B$;" ";C$;" ";D$
46 PRINT"[DOWN][DOWN]PRESS APPROPRIATE K
EY"
47 :
48 :
50 GETI$:IFI$=""THEN50
51 IFI$="[F1]"THEN180
52 IFI$="[F3]"THEN590
53 IFI$="[F5]"THENPRINT"[CLR]":END
55 GOTO50
100 :
101 :
170 REM *** SAVING RAM ***
180 PRINT"[CLR]SAVING RAM"
190 :
200 PRINT"[DOWN][DOWN][DOWN]"
210 INPUT"[UP][UP]ENTER THE ADDRESS OF S
TART OF RAM IN    DECIMAL";SA
220 IFSA<0ORSA>65535THEN210
225 :
230 PRINT"[DOWN][DOWN][DOWN]"
240 INPUT"[UP][UP]ENTER THE ADDRESS OF E
ND OF RAM IN      DECIMAL";EA
250 IFEA<0OREA>65535OREA<SATHEN240
255 :
260 HS=INT(SA/256)
261 LS=SA-256*HS
262 HE=INT(EA/256)
263 LE=EA-256*HE
300 :
360 PRINT"[DOWN][DOWN][DOWN]"
361 INPUT"[UP]ENTER LENGTH OF FILE NAME
(1-15)";NL
363 IFNL<1ORNL>15THEN361
364 POKE2,NL
365 :
366 PRINT"[DOWN][DOWN]"
370 PRINT"[UP][UP]ENTER THE FILE NAME ("
;NL;"CHARACTERS )      ";:INPUTFI$
380 NN=LEN(FI$)
390 IFNN<>NLTHEN370
```

```
395 :
400 POKE251,LS:POKE252,HS
410 POKE253,LE:POKE254,HE
415 :
420 FORI=0TONL-1
430 POKE49152+I,ASC(MID$(FI$,I+1,1))
440 NEXT
441 :
445 RESTORE
446 :
450 FORI=49176TO49176+27
460 READA:POKEI,A
470 NEXT
475 :
490 PRINT"[DOWN]PLEASE WAIT"
510 SYS49176
520 GOTO8
550 :
551 :
580 REM *** LOADING RAM ***
590 PRINT"[CLR]LOADING RAM"
600 :
605 :
610 PRINT"[DOWN][DOWN][DOWN]"
620 INPUT"[UP][UP]ENTER THE ADDRESS OF S
TART OF RAM IN     DECIMAL FORMAT";LA
630 IFLA<0ORLA>65536THEN620
635 :
640 HS=INT(LA/256)
641 LS=LA-256*HS
650 :
700 PRINT"[DOWN][DOWN][DOWN]"
701 INPUT"[UP]ENTER LENGTH OF FILE NAME
(1-15)";NL
705 IFNL<1ORNL>15THEN701
706 :
707 PRINT"[DOWN][DOWN]"
708 POKE2,NL
710 PRINT"[UP][UP]ENTER FILE NAME (";NL;
"CHARACTERS)              ";:INPUTFI$
720 NN=LEN(FI$)
730 IFNN<>NLTHEN710
740 POKE251,LS:POKE252,HS
745 :
750 FORI=0TO3
760 POKE49152+I,ASC(MID$(FI$,I+1,1))
770 NEXT
772 :
773 RESTORE
775 :
776 FORI=1TO28:READQ:NEXT
780 FORI=49176TO49176+27
790 READA:POKEI,A
800 NEXT
805 :
820 PRINT"[DOWN]PLEASE WAIT"
840 SYS49176
850 GOTO8
860 :
865 :
900 REM *** MACHINE CODE DATA ***
910 DATA169,2,162,8,160,255,32,186,255,1
65,2,162,0,160,192,32,189,255,169,251
920 DATA166,253,164,254,32,216,255,96
930 DATA169,2,162,8,160,0,32,186,255,165
,2,162,0,160,192,32,189,255,169,0
940 DATA166,251,164,252,32,213,255,96

READY.
```



MULTICOLOUR SPRITE EDITOR

The Multicolour Sprite Editor can be used to edit, view, save or load a multicolour sprite and print or view its data.

A joystick in port 2 must be used to actually edit the sprite; use the four directions to move the cursor around and use the fire button to set a point.

Sprite colours can be changed by using the 'set sprite colour' option. While editing the sprite, colours can be changed using the function keys (plot colours):

F1 — multicolour 1
F3 — sprite colour
F5 — multicolour 2
F7 — blank (background colour)

The 'Print/view sprite data' option allows the 63 bytes of data which make up the sprite to be printed or viewed. The 'View actual sprite' option displays the sprite you are editing in its actual form. It gives an idea of what it really looks like in expanded and regular form.

The 'Save sprite' and 'Load sprite' options allow a sprite to be saved or loaded in the form of a sequential file on disk (alter lines 830 and 930 if using tapes). The program uses three sprites; sprite 1 is the regular sprite, sprite 2 is the expanded sprite (sprite 1 and sprite 2 are used in the view option, sprite 3 is the cursor in edit mode.

The cursor in edit mode shows the current plot colour as well as the background colour.

Three arrays are used:

SD(21,12) — contains one element for every pair of bits in the sprite. Each element represents one dot (from 0-3).
MD(63) — contains the actual sprite data.
C(4) — contains the four plot colours (CE holds the cursor colour).

Each time the fire button is pressed while editing, the SD and MD arrays are updated.

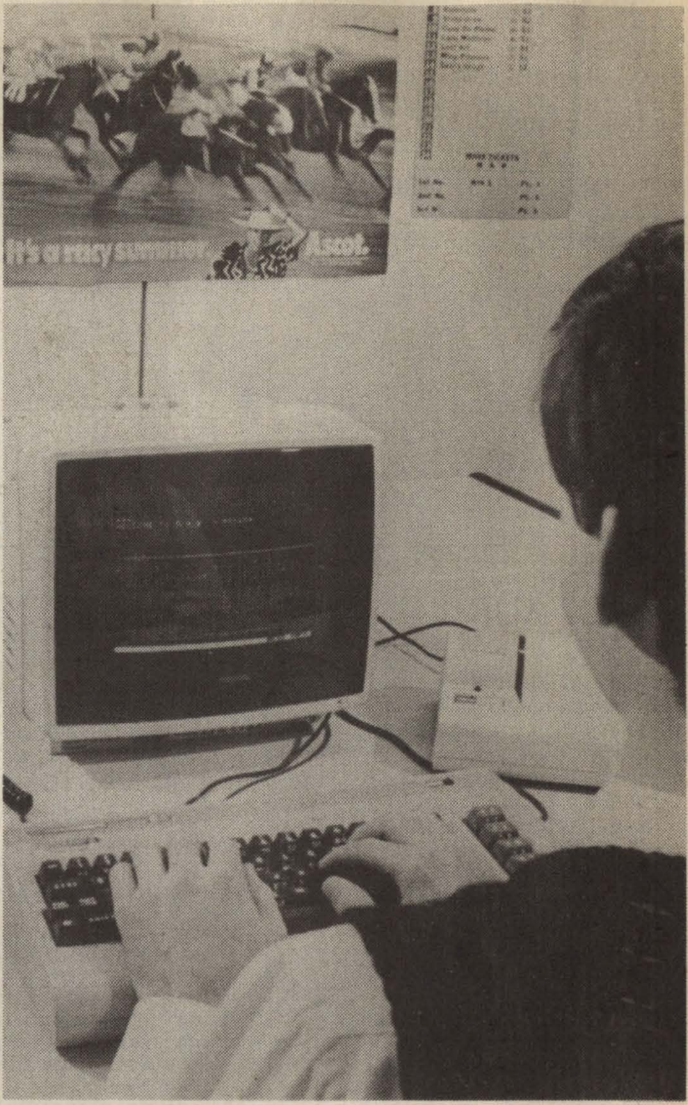
G. Harland
Elizabeth Downs SA

```
1 REM  *******************
2 REM  **  MULTICOLOUR   **
3 REM  ** SPRITE EDITOR **
4 REM  **      BY       **
5 REM  ** G.R. HARLAND  **
6 REM  *******************
7 :
8 :
10 REM *** INITIALISE ***
11 POKE53280,0:POKE53281,0
15 PRINT"[CLR][GRN]"
16 :
20 DIM SD(21,12),MD(63)
21 CE=1:C(1)=2:C(2)=6:C(3)=7:C(4)=11
22 X1=112:Y1=98:X2=239:Y2=98
23 XX=144:YY=74
24 SM=12736:EM=12800
25 RD=0
26 :
27 :
30 REM *** SET UP SPRITES ***
31 V=53248
32 POKEV+21,0:POKEV+16,0
33 POKE2040,199:POKE2041,199
34 POKE2042,200
35 POKEV+28,7
36 POKEV,X1:POKEV+1,Y1
37 POKEV+2,X2:POKEV+3,Y2
38 POKEV+4,XX:POKEV+5,YY
39 POKEV+29,2:POKEV+23,2
42 :
45 FORI=EMTOEM+23
46 READQ
47 POKEI,Q
48 NEXT
49 :
50 FORI=EM+24TOEM+63
51 POKEI,0
52 NEXT
53 :
60 POKEV+37,C(1)
61 POKEV+38,C(3):POKEV+39,C(2)
62 POKEV+40,C(2):POKEV+41,C(CE)
70 :
71 :
100 REM *** MAIN MENU ***
101 PRINT"[CLR][DOWN][DOWN][DOWN]    MULT
ICOLOUR SPRITE EDITOR MAIN MENU"
102 PRINT"[DOWN][DOWN]    DO YOU WISH TO:
-"
103 PRINT"[DOWN][DOWN]        F1 EDIT YOU
R SPRITE."
104 PRINT"        F3 SET SPRITE COLOURS."
105 PRINT"        F5 PRINT OR VIEW SPRITE
 DATA."
106 PRINT"        F7 VIEW ACTUAL SPRITE."
107 PRINT"        F2 STOP."
108 PRINT"        F4 RESTART."
109 PRINT"        F6 SAVE SPRITE."
110 PRINT"        F8 LOAD SPRITE."
111 PRINT"[DOWN][DOWN]    PRESS THE APPRO
PRIATE FUNCTION KEY."
112 :
```

```
115 GETI$:IFI$=""THEN115
120 IFI$="[F1]"THEN200
121 IFI$="[F3]"THEN500
122 IFI$="[F5]"THEN600
123 IFI$="[F7]"THEN700
124 IFI$="[F2]"THEN150
125 IFI$="[F4]"THEN150
126 IFI$="[F6]"THEN800
127 IFI$="[F8]"THEN900
129 GOTO115
130 :
131 :
150 REM *** STOP/RESTART ***
160 PRINT"[CLR][DOWN][DOWN][DOWN]"
170 PRINT"        ARE YOU SURE (Y/N)"
175 GETA$:IFA$=""THEN175
176 IFA$="N"THEN100
177 IFA$="Y"ANDI$="[F2]"THENPRINT"[CLR]"
:END
178 IFA$="Y"ANDI$="[F4]"THENRUN
179 GOTO175
190 :
191 :
200 REM *** EDIT SPRITE ***
202 PRINT"[CLR]"
210 PRINT"[HOME][DOWN]   SPRITE"
211 PRINT"[DOWN]   EDITOR"
212 PRINT"[DOWN][DOWN]F1 [RVON]  [RVOF]
COL.1"
213 PRINT"[DOWN]F3 [RVON]  [RVOF] COL.2"
214 PRINT"[DOWN]F5 [RVON]  [RVOF] COL.3"
215 PRINT"[DOWN]F7    BLANK"
216 PRINT"[DOWN][DOWN]   PRESS"
217 PRINT"   'M'"
218 PRINT"   FOR"
219 PRINT" MAIN MENU"
220 :
221 POKE55539,C(1):POKE55540,C(1)
222 POKE55619,C(2):POKE55620,C(2)
223 POKE55699,C(3):POKE55700,C(3)
224 :
225 FORX=15TO38
226 POKE1104+X,100
227 POKE1984+X,99
228 NEXT
229 :
230 FORY=3TO23
231 POKE1038+40*Y,103
232 POKE1063+40*Y,101
233 NEXT
234 :
235 PRINT"[DOWN][DOWN]  CO-ORDS"
236 PRINT"[DOWN] ";INT((XX-144)/16+.5)+1
;",";INT((YY-74)/8+.5)+1;"  "
237 POKEV+41,C(CE):POKEV+21,4
238 POKEV+37,0
239 :
240 IFRD=1THENGOSUB450
241 RD=1
242 :
250 RX=INT(XX/256)
251 LX=XX-RX*256
252 AX=RX*4
```

```
253 POKEV+4,LX:POKEV+16,AX:POKEV+5,YY
254 POKEV+41,C(CE)
255 TX=INT((XX-144)/16+.5)+1
256 TY=INT((YY-74)/8+.5)+1
257 PRINT"[UP]           "
258 PRINT"[UP] ";TX;",";TY;"  "
259 :
260 J=31-PEEK(56320)AND31:GETI$
261 IFI$=""ANDJ=255THEN260
262 IFJ=1ANDYY>74THENYY=YY-8:GOTO250
263 IFJ=2ANDYY<234THENYY=YY+8:GOTO250
264 IFJ=4ANDXX>144THENXX=XX-16:GOTO250
265 IFJ=8ANDXX<320THENXX=XX+16:GOTO250
266 IFJ=16THENGOSUB300
267 IFI$="M"THENPOKEV+21,0:GOTO60
268 IFI$="[F1]"THENCE=1:GOTO250
269 IFI$="[F3]"THENCE=2:GOTO250
270 IFI$="[F5]"THENCE=3:GOTO250
271 IFI$="[F7]"THENCE=4:GOTO250
280 GOTO260
290 :
291 :
300 REM *** FIRE ***
305 WX=2*TX-1
307 SC=CE
308 IFCE=4THENSC=0
310 POKE1118+WX+40*TY,160
311 POKE1119+WX+40*TY,160
312 POKE55390+WX+40*TY,C(SC)
313 POKE55391+WX+40*TY,C(SC)
320 SD(TY,TX)=SC
322 P=3*TY-2+INT((TX-1)/4)
323 B=7-((TX-1)*2-8*INT((TX-1)/4))
324 MD(P)=MD(P)AND(255-2↑B-2↑(B-1))OR(SC
*2↑(B-1))
350 RETURN
400 :
401 :
450 REM *** REDISPLAY DATA ***
460 FORI=1TO21
461 FORJ=1TO12
462 IFSD(I,J)=0THEN468
463 XP=2*J-1
464 POKE1118+XP+40*I,160
465 POKE1119+XP+40*I,160
466 POKE55390+XP+40*I,C(SD(I,J))
467 POKE55391+XP+40*I,C(SD(I,J))
468 NEXTJ
469 NEXTI
480 RETURN
485 :
486 :
500 REM *** SET SPRITE COLOURS ***
510 PRINT"[CLR][DOWN][DOWN][DOWN]"
515 :
520 FORI=1TO3
522 PRINT"[UP]ENTER COLOUR";I;" ";
523 INPUTC(I)
524 IFC(I)<1ORC(I)>15THEN522
526 PRINT"[DOWN][DOWN]"
528 NEXT
540 GOTO60
590 :
```

```
591 :
600 REM *** PRINT/VIEW SPRITE DATA ***
605 PRINT"[CLR][DOWN][DOWN]"
610 PRINT" DO YOU WANT TO (P)RINT OR (V)
IEW DATA."
620 GETI$:IFI$=""THEN620
621 IFI$="V"THEN640
622 IFI$="P"THEN680
623 GOTO620
630 :
640 REM *** VIEW DATA ***
645 PRINT"[CLR]SPRITE DATA:"
648 :
650 FORI=1TO63STEP3
652 PRINTMD(I);",";MD(I+1);",";MD(I+2)
655 NEXT
658 :
660 PRINT"[DOWN]PRESS ANY KEY TO RETURN
TO THE MENU"
662 GETI$:IFI$=""THEN662
664 GOTO100
665 :
680 REM *** PRINT DATA ***
681 OPEN1,4
682 PRINT"[CLR]"
683 PRINT"HIT ANY KEY TO START PRINTING"
684 GETI$:IFI$=""THEN684
685 PRINT#1,"  SPRITE DATA:"
686 :
687 FORI=1TO63STEP9
688 PRINT#1
689 PRINT#1," ";
690 FORJ=0TO8
691 PRINT#1,MD(I+J);",";
692 NEXTJ
693 NEXTI
694 :
695 PRINT#1
696 CLOSE1
697 GOTO100
698 :
699 :
700 REM *** VIEW ACTUAL SPRITE ***
705 PRINT"[CLR][DOWN]PRESS ANY KEY TO RE
TURN TO THE MAIN MENU[DOWN][DOWN][DOWN]"
710 PRINT"UNEXPANDED:          EXPANDED:"
715 :
720 FORI=1TO63
721 POKESM+I-1,MD(I)
722 NEXT
725 :
730 POKEV+21,3
741 GETI$:IFI$=""THEN741
742 POKEV+21,0
745 GOTO100
750 :
751 :
800 REM *** SAVE A SPRITE ***
810 PRINT"[CLR][DOWN][DOWN][DOWN][DOWN]"
820 INPUT"[UP]ENTER SPRITE NAME (1-15 CH
ARACTERS)      :";SN$
825 L=LEN(SN$)
826 IFL<1ORL>15THEN820
```



```
829 :
830 OPEN2,8,2,"@0:"+SN$+"S,W"
831 :
832 FORI=1TO4
833 PRINT#2,C(I)
834 NEXTI
835 :
836 PRINT#2,CE
837 :
840 FORI=1TO21
841 FORJ=1TO12
842 PRINT#2,SD(I,J)
843 NEXTJ
844 NEXTI
845 :
846 FORI=1TO63
847 PRINT#2,MD(I)
848 NEXTI
850 CLOSE2
860 GOTO100
870 :
871 :
```

```
900 REM *** LOAD A SPRITE ***
905 RD=1
910 PRINT"[CLR][DOWN][DOWN][DOWN][DOWN]"
920 INPUT"[UP]ENTER SPRITE NAME (1-15 CH
ARACTERS)      :";SN$
925 L=LEN(SN$)
926 IFL<1ORL>15THEN920
927 :
930 OPEN2,8,2,"@0:"+SN$+"S,R"
931 :
932 FORI=1TO4
933 INPUT#2,C(I)
934 NEXT
935 :
936 INPUT#2,CE
937 :
940 FORI=1TO21
941 FORJ=1TO12
942 INPUT#2,SD(I,J)
943 NEXTJ
944 NEXTI
945 :
946 FORI=1TO63
947 INPUT#2,MD(I)
948 NEXTI
950 CLOSE2
970 GOTO60
980 :
981 :
1000 REM *** DATA FOR CURSOR ***
1001 DATA154,166,0,90,165,0,106,169,0,16
8,42,0,168,42,0,106,169,0
1002 DATA90,165,0,154,166,0
READY.
```

MINOTAUR MAZE

The game Minotaur Maze starts by drawing a random maze on the screen then placing a treasure ($ sign), the Minotaur (a user defined character) and a man (another user defined character) in the maze. The object of the game is to move your man to the treasure and back to your home corner, whereupon another treasure will appear.

The Minotaur moves at random until your man secures the treasure then the Minotaur actively pursues him. If the Minotaur catches your man the game ends. Your score depends on how many treasures you get and how long you stay alive. The maze drawing routine is slow but interesting to watch — so be patient.

R K. Lamberr
Riddells Vic.

```
10 REM****MINATOUR MAZE****************
20 GOSUB2000
30 GOSUB1000
40 GOSUB3000
50 GOSUB5000
60 IFPP<>0THEN40
70 PRINTCHR$(147);"SCORE";SC
80 PRINT"PRESS FIRE FOR ANOTHER GAME"
90 IFPEEK(56321)<>239THEN90
100 GOTO 30
1000 REM****MAZE GENERATOR*************
1010 PRINTCHR$(147):POKE53280,0:SC=0:POKE53281,6
1020 FORI=0TO39
1021 POKE1024+I,64:POKE1024+C+I,0:POKE1984+I,64:POKE1984+C+I,0
1022 NEXTI
1030 FORI=0TO24
1031 POKE1024+I*40,64:POKE1063+I*40,64:POKE1024+C+I*40,0:POKE1063+I*40+C,0
1032 NEXTI
1040 POKE1083,64:POKE1083+C,0
1041 POKE1084,64:POKE1084+C,0
1042 POKE1085,64:POKE1085+C,0
1050 FORI=1024TO2023STEP9
1060 P=I
1070 FORJ=1TO4
1071 D=INT(RND(1)*4)*2+1
1072 IFDR(D)=DR(DL+4)THEN1071
1073 DL=D
1075 FORH=1TO6
1080 P=P+DR(D)
1090 IFP<1024THENP=P+700:GOTO1090
1095 IFP>2023THENP=P-700:GOTO1090
1100 GOSUB1160
1110 NEXTH,J,I
1150 GOTO 1300
1160 IFPEEK(P)=64THENH=6:J=4:GOTO1270
1170 F=0
1180 FORG=1TO7STEP2
1190 IFPEEK(P+DR(G))<>64THEN1220
1200 IFF=0THENF=G:GOTO1220
1210 F=-1:G=7
1220 NEXTG
1230 IFF=-1THEN1270
1235 IFF<>0THEN1240
1236 F=1:IFPEEK(P+DR(2))=64THEN1270
1237 IFPEEK(P+DR(8))=64THEN1270
1240 IFPEEK(P+DR(F+3))=64THEN1270
1250 IFPEEK(P+DR(F+5))=64THEN1270
1260 POKEP,64:POKEP+C,0
1270 RETURN
1300 FORI=1TO3
1310 POKE1064+I,32:POKE1104+I,32:POKE1144+I,32
1320 NEXTI
```

```
1330 POKE1065,68:POKE1065+C,3
1340 PP=1065
1350 MP=INT(RND(1)*1000+1024)
1360 IFPEEK(MP)=64THEN1350
1370 MD=INT(RND(1)*4)*2+1:LD=MD
1380 IFMD=1THENPOKEMP,70:GOTO1420
1390 IFMD=3THENPOKEMP,72:GOTO1420
1400 IFMD=5THENPOKEMP,70:GOTO1420
1410 IFMD=7THENPOKEMP,74:GOTO1420
1420 POKEMP+C,3
1430 GOSUB4000
1990 RETURN
2000 REM***INITIALIZATION**************
2005 POKE52,48:POKE56,48
2010 DIMDR(16):DR(1)=40:DR(2)=39:DR(3)=-1:DR(4)=-41:C=54272
2020 FORI=1TO4
2030 DR(I+4)=-DR(I):DR(I+8)=DR(I):DR(I+12)=-DR(I)
2040 NEXTI
2050 S=54272:POKES+24,15
2051 POKES,0
2100 PRINTCHR$(147);"MINATOUR MAZE"
2110 PRINT"*************"
2120 PRINT"THE MINATOUR MAZE CONTAINS MANY"
2130 PRINT"TREASURES,BUT THEY ARE GUARDED BY THE"
2140 PRINT"MINATOUR,A FEARSOME BEAST WHO KILLS ALL"
2150 PRINT"INTRUDERS IT CATCHES."
2155 PRINT"GOOD LUCK!!!!"
2170 POKE56334,PEEK(56334)AND254
2180 POKE1,PEEK(1)AND251
2190 FORA=0TO511
2200 POKE12288+A,PEEK(53248+A):NEXTA
2210 POKE1,PEEK(1)OR4
2220 POKE56334,PEEK(56334)OR1
2230 POKE53272,(PEEK(53272)AND240)OR12:RESTORE
2240 FORA=512TO599
2250 READBYTE:POKE12288+A,BYTE
2260 NEXTA
2270 DIMJD(10):FORJ=0TO10
2280 READJD(J):NEXTJ
2970 PRINT"PRESS ANY KEY TO CONTINUE"
2980 GETA$:IFA$=""THEN2980
2990 RETURN
3000 REM****PLAYERS MOVE****************
3005 POKES+1,20:POKES+5,0:POKES+6,240:POKES+4,33
3010 IFPEEK(PP)=70THENPOKEPP,69:GOTO3030
3020 POKEPP,PEEK(PP)+1
3030 PD=255-PEEK(56321)
3035 IFPD=0ORPD>10THENRETURN
3040 IFPEEK(PP+JD(PD))=32ORPEEK(PP+JD(PD))=36THEN3050
3041 RETURN
3050 PP=PP+JD(PD):SC=SC+1
3060 IFPP<>TPTHEN3080
3070 SC=SC+100:TP=0
3080 IFTP<>0THEN3110
3090 IFPP<>1065THEN3110
3100 SC=SC+100:GOSUB4000
3110 IFJD(PD)=1THENPC=67:GOTO3140
3120 IFJD(PD)=-1THENPC=65:GOTO3140
3130 PC=69
3140 POKEPP-JD(PD),32:POKEPP+C,1:POKEPP,PC
3150 PRINTCHR$(19)CHR$(144);"█████SCORE",SC;CHR$(96)
     CHR$(96)CHR$(96)CHR$(96)
3160 POKES+4,32
3990 RETURN
4000 REM***POSITION TREASURE***********
4010 TP=INT(RND(1)*1000+1024)
4020 IFPEEK(TP)<>32THEN4010
4030 POKETP,36:POKETP+C,10
4990 RETURN
5000 REM***MINATOURS MOVE**************
5005 POKES+1,10:POKES+5,0:POKES+6,240:POKES+4,33
5010 IFMD=1THENPOKEMP,69:GOTO5050
5020 IFMD=3THENPOKEMP,71:GOTO5050
5030 IFMD=5THENPOKEMP,69:GOTO5050
5040 POKEMP,73
5045 IFTP<>0THEN5230
5050 IFMP=PP THENGOSUB6000:RETURN
5140 MY=INT((MP-1024)/40):PY=INT((PP-1024)/40)
```

```
5150 MX=MP-MY*40:PX=PP-PY*40
5160 IFABS(MY-PY)>ABS(MX-PX)THEN5190
5170 IFMX>PXTHENMD=3:GOTO5210
5180 MD=7:GOTO5210
5190 IFMY>PYTHENMD=5:GOTO5210
5200 MD=1
5210 IFPEEK(MP+DR(MD))=32THEN5330
5220 IFPEEK(MP+DR(MD))>64THEN5330
5230 IFRND(1)*100<30THENMD=LD:GOTO5240
5231 MD=LD-2
5232 IFMD<1THENMD=MD+8
5240 IFPEEK(MP+DR(MD))>64THEN5330
5250 IFPEEK(MP+DR(MD))=36THEN5330
5260 IFPEEK(MP+DR(MD))=32THEN5330
5270 MD=MD+2
5280 IFMD>15THENMD=1
5290 GOTO5240
5330 MP=MP+DR(MD):LD=MD
5340 IFMD=1ORMD=5THENPOKEMP,70:GOTO5370
5350 IFMD=3THENPOKEMP,72:GOTO5370
5360 POKEMP,74
5370 POKEMP+C,3:POKEMP-DR(MD),32:POKES+4,32
5380 IFMP=PPTHENGOSUB6000:RETURN
5390 IFMP=TPTHENGOSUB4000:RETURN
5990 RETURN
6000 REM***MINATOUR KILLS PLAYER*******
6010 PP=0
6020 POKES+5,0:POKES+6,240:POKES+4,33
6030 POKES+7,0:POKES+11,17:POKES+12,0:POKES+13,240
6040 FORL=100TO10STEP-1
6050 POKES+1,L:POKES+8,L+20:POKE53281,INT(L/10)
6060 FORT=1TO10
6070 NEXTT,L
6090 POKES+4,32:POKES+11,16:POKE53281,14
6990 RETURN
10000 DATA255,255,255,255,255,255,255,255
10010 DATA24,24,8,120,24,40,72,106
10020 DATA24,24,8,120,24,24,24,56
10030 DATA24,24,16,30,24,20,18,27
10040 DATA24,24,16,30,24,24,24,28
10050 DATA28,28,8,127,28,28,16,16
10060 DATA28,28,8,127,28,28,4,4
10070 DATA96,96,32,224,60,60,66,129
10080 DATA96,96,32,224,60,60,36,24
10090 DATA6,6,4,7,60,60,66,129
10100 DATA6,6,4,7,60,60,36,24
10110 DATA0,-40,40,0,-1,-41,39,0,1,-39,41
READY.
```

BBC

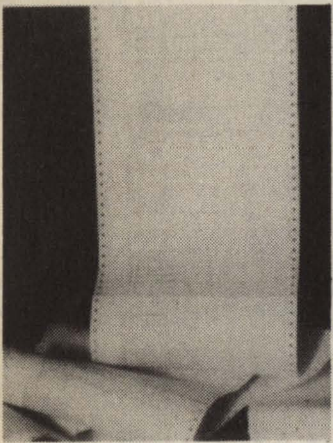
ADVENTURE WITHOUT A NAME

For the BBC — all you need to know is given in the program.

A. Sumner
Aberdeen NSW

```
    1 OP=0:PIP=0 :P=8 :J$=" "
    2 M=0
    3 W=15:X=0:Y=0
    4 KEY=0 :K=7
    5 RM=1 :T=5000 :I=0
    9 GOSUB 10000
   10 REM
   11 CLS:MODE 3 :PRINT "You are ";LO$
   12 PRINT " You see ";SE$
   15 PRINT "Visible exits are: ";VE$
   16 PRINT "_____________________________________________________________
_________________________"
   17 PRINT "What now ";
   18 IF RM=2 AND T< 4996 AND T> 4990 THEN PRINT "YOU RUN INTO SNARKS.
.............YUK! WHAT A MESS.":GOTO 20500
   19 INPUT A$: IF RM = 9000 AND  A$="DROP KEY" OR A$="DROP KE" OR A$
= "DR KEY" THEN PRINT "NO!":GOTO 17
   20 L1=0:T=T-1 :IF A$="TIME"THEN PRINT T/60  :GOTO 17
   21 IF A$ ="L" OR A$ = "LOOK"THEN T=T-1: GOTO 10
   24 IF A$= "N" THEN A2$ = "NORM" :GOTO1000
   25 IF A$= "S" THEN A2$ = "SOUFF":GOTO1000
   26 IF A$= "E" THEN A2$ = "EASTY" :GOTO1000
   27 IF A$= "W" THEN A2$ = "WESTY" :GOTO1000
   28 WA = RND(W)    :IF A$=""THEN GOTO 17
   29 IF WA = 4 THEN PRINT "         A wizard just flew by chasing a Bom
bbat ......"
   30 L1=L1+1:IF L1 = LEN(A$) THEN A$=" "
   32 IFA$="WAIT" OR A$="SLEEP"THEN PRINT " You ";A$:T=T-5 :GOTO17
  103 IF A$="INV" OR A$="INVENTORY" THEN GOTO 3500
  110 IFA$="SCORE" THEN PRINT " THERE IS NO SCORE. YOU LIVE OR DIE BY
THE..............":GOTO17
  111 IFA$="HELP" THEN PRINT "TRY USING TWO OR ONE WORD INPUTS UNLESS
INSTRUCTED OTHERWISE.":GOTO17
  112 IF RM=80 THEN PRINT "A GREAT VOICE BOOMS 'WHAT WOULD THE SNIVELI
NG LITTLE WORM BE WANTING IN MY PRESENTS?'":INPUT "YOU ANSWER:-";J$
  113 IF J$="I WOULD LIKE YOUR HELP" OR J$="HELP" THEN PRINT "THE VOIC
E SAY'S 'TELL ME THE PASS WORD'.":GOTO112
  114 IF RM=P AND A$="GET PIPE"ORA$="TAKE PIPE" THEN PRINT "OK":PIP=9:
GOTO17
  115 IF J$="PLEASE"OR J$="PLEASE HELP" THEN PRINT "THERE IS A BLINDIN
G FLASH... YOU HAVE WON.":END
  230 B$ = MID$(A$,L1,1)
  235 IF B$ = " "THEN L1=L1-1 ELSE 30
  240  A1$= LEFT$(A$.L1)
  250 A2$ = RIGHT$(A$,LEN(A$)-L1-1)
  290 A$ = ""
  305 REM ++++++++++ COMMANDS ++++++++++
  310 IF LEFT$(A1$,2)= "GO" OR LEFT$(A1$,2)= "RU" THEN 1000
  315 IF LEFT$(A1$,2)= "WA" OR LEFT$(A1$,2)= "JU" THEN 1000
  316 IF LEFT$(A1$,2)= "LO" OR LEFT$(A1$,2)= "EX" OR LEFT$(A1$,3)= "RE
A"THEN 2000
  317 IF LEFT$(A1$,2)= "GE" OR LEFT$(A1$,3)= "TAK" THEN 3000
  318 IF LEFT$(A1$,2)= "DR" OR LEFT$(A1$,3)= "THR" THEN 4000
  319 IFLEFT$(A1$,2)="OP"ORLEFT$(A1$,2)="UN"THENGOTO4500
  320 IFLEFT$(A1$,2)="CL"ORLEFT$(A1$,3)="SHU"THENGOTO4800
  900 GOTO 17
 1000 REM ............GO,RUN,WALK,JUMP..............
 1004 IF RM=2 AND LEFT$(A2$,2) ="WE" THEN RM=4: GOSUB 10000:GOTO9
 1005 IF RM=1 AND LEFT$(A2$,2) ="NO" THEN RM=2:GOSUB 10000:GOTO 9
 1007 IF RM=2 AND LEFT$(A2$,2) ="SO" THEN RM=1: GOSUB 10000:GOTO9

 1009 IF RM=2 AND LEFT$(A2$,2) ="EA" THEN RM=3: GOSUB 10000:GOTO9
 1010 IF RM=4 AND LEFT$(A2$,2) ="EA" THEN Rm=2:GOSUB 10000:GOTO9
 1011 IF RM=4 AND LEFT$(A2$,2) ="WE" THEN RM=5:GOSUB 10000:GOTO9
 1012 IF RM=5 AND LEFT$(A2$,2) ="WE" THEN Rm=6:GOSUB 10000:GOTO9
 1013 IF RM=5 AND LEFT$(A2$,2) ="EA" THEN Rm=4:GOSUB 10000:GOTO9
 1014 IF RM=6 AND LEFT$(A2$,2) ="EA" THEN Rm=5:GOSUB 10000:GOTO9
 1015 IF RM=6 AND LEFT$(A2$,2) ="NO"THEN RM=7:GOSUB 10000:GOTO9
 1016 IF RM=7 AND LEFT$(A2$,2) ="SO"THEN Rm=6:GOSUB 10000:GOTO9
 1017 IF RM=8 AND LEFT$(A2$,2) ="WE"THEN RM=1:GOSUB 10000:GOTO9
 1018 IF RM=1 AND LEFT$(A2$,2) ="EA"THEN RM=8:GOSUB 10000:GOTO9
 1019 IF RM=12 AND LEFT$(A2$,2)="SO" THEN X=0:Y=0:GOSUB26000:GOTO9
 1020 IFRM=9000AND LEFT$(A2$,2)="NO"ANDX=0ANDY=0THENRM=12:GOSUB10000:G
OTO9
 1021 IFRM=9000AND LEFT$(A2$,2)="NO"THENY=Y-1:GOSUB26000:GOTO9
 1022 IFRM=9000AND LEFT$(A2$,2)="SO"THENY=Y+1:GOSUB26000:GOTO9
```



```
 1023 IFRM=9000AND LEFT$(A2$,2)="EA"THENX=X+1:GOSUB26000:GOTO9
 1024 IFRM=9000AND LEFT$(A2$,2)="WE"THENX=X-1:GOSUB26000:GOTO9
 1025 IF RM=8 AND OP=6 ANDLEFT$(A2$,2)="NO" THEN RM=9:GOSUB10000:GOTO9

 1026 IF RM=10 AND LEFT$(A2$,2)="EA" THEN RM=11:GOSUB10000:GOTO9
 1027 IF RM=11 AND LEFT$(A2$,2)="SO" THEN RM=12:GOSUB10000:GOTO9
 1029 IF RM=9 AND LEFT$(A2$,2)="EA" THEN RM=10:GOSUB10000:GOTO9
 1030 IF RM=9 AND LEFT$(A2$,2)="SO" THEN RM=8:GOSUB10000:GOTO9
 1036 IF RM=10 AND LEFT$(A2$,2)="WE" THEN RM=9:GOSUB10000:GOTO9
 1037 IF RM=11 AND LEFT$(A2$,2)="WE" THEN RM=10:GOSUB10000:GOTO9
 1038 IF RM=12 AND LEFT$(A2$,2)="NO" THEN RM=11:GOSUB10000:GOTO9
 1039 IFRM=8 AND LEFT$(A2$,3)="DOO"AND OP=6 THEN RM=9:GOTO 10000:GOTO9
 1043 IF RM=12 AND LEFT$(A2$,2)="EA" THEN RM=80:GOSUB10000:GOTO9
 1045 IF RM=1 AND PIP=9 AND LEFT$(A2$,2)="TU" THEN RM=40:GOSUB10000:GO
TO9
 1046 IF RM=40 AND PIP=9 AND LEFT$(A2$,2)="TU" THEN RM=1:GOSUB10000:GO
TO9
 1900 PRINT " YOU CAN'T .":FOR D=1TO1000:NEXT:GOTO9
 2000 REM @@@@@[ LOOK @@@@@@@
 2001 IF RM=8ANDLEFT$(A2$,3)="DWA"THEN PRINT "HE IS OFF HIS FACE.":GOT
O17
 2002 IF RM=7 AND LEFT$(A2$,2)="CR"THENPRINT"IT HAS A KEY IN IT.":GOTO
17
 2003 IF RM=40 AND LEFT$(A2$,2)="PL"THENPRINT"IT HAS WRITTEN ON IT 'Pl
ease is good manners.'":GOTO17
 2004 IF RM=40 AND LEFT$(A2$,2)="BI"THENPRINT"IT IS LONG GONE NOW.":GO
TO17
 2990 PRINT "IT IS A ";A2$:GOTO 17
 3000 REM @@@@@@@@@@@@GET@@@@@@@
 3005 IF RM=K AND I=0 ANDLEFT$(A2$,2)="KE"THEN K=RM:I=5:PRINT "OK":GOT
O17
 3009 IF P=RM AND PIP=0 ANDLEFT$(A2$,2)="PI"THEN PIP=9:PRINT "OK":GOTO
17
 3400 PRINT "     WHAT ??????          You're onlv a Hairvoditie remembe
r."
 3490 GOTO 17
 3500 REM*****INV****
 3505 PRINT         "THOU HAST IN THY POSSESION:-"
 3507 IF PIP=9 THEN PRINT " A PIPE FULL WHICH GIVES OF A FAINT GLOW."
 3510 IF I=5 THEN PRINT " A KEY."
 3990 GOTO 17
 4000 REM @@@@@@DROP@@@@@
 4010 IF LEFT$(A2$,2)="KE"ANDI=5THEN I=0:K=RM :PRINT "OK":GOSUB 10000:
GOTO 17
 4012 IF LEFT$(A2$,2)="PI"ANDPIP=9THEN PIP=0:P=RM :PRINT "OK":GOSUB 10
000:GOTO 17
 4300 PRINT "I don't have a ";A2$
 4305 GOTO 17
 4500 REM ********OPEN****
 4505 IF RM=8 AND I=5 AND LEFT$(A2$,2)="DO"THEN PRINT "IT IS NOW OPEN"
:OP=6:GOTO17
 4590 PRINT "My dear fellow, I am terribly sorry but that cannot be do
ne.":GOTO17
 4800 IF RM=8 OR RM=9 AND LEFT$(A2$,2) = "DO" THEN OP=0 : PRINT "IT IS
 NOW CLOSED.":GOTO 17
 4890 PRINT "  HOW DO EXPECT ME TO SHUT THAT !!!!":GOTO 17
10000 REM 000000000 LOCAT 000000000
10002 IF RM=1 THEN LO$ = "IN A SMALL HUT.": SE$ = "A DARK TUNNEL.":VE$
 = "NORTH , EAST."
10003 IF RM=2 THEN LO$ = "ON THE EDGE OF A ROAD.":SE$ = "TWO SNARKS CO
MING FROM THE EAST.":VE$ = "SOUTH , WEST ,EAST"
10004 IF RM=2 AND T< 4996 AND T> 4990 THEN PRINT "YOU RUN INTO SNARKS.
.............YUK! WHAT A MOLE MUNCHING MESS."
10005 IF RM = 3 THEN PRINT"YOU ARE ATTACKED BY THE SNARKS AND TURN APA
RT.":GOTO 20500
10006 IFRM=4THEN LO$="ON A WIDE ROAD":VE$="EAST , WEST":SE$="NOTHING"
10007 IF RM=5 THEN LO$="ON A WIDE ROAD.":VE$="EAST AND WEST.":SE$="NOT
HING."
10009 IF RM=6 THEN LO$="ON A WIDE ROAD.":VE$="EAST,NORTH.":SE$="NOTHIN
G. (but you hear running water.)"
10010 IF RM=7 THEN LO$="BY A CREEK.":VE$="SOUTH.":SE$="THE WIDE CREEK.
"
10011 IF  RM=8'THEN LO$="IN A LOW BUT WIDE ROOM.":VE$="WEST,NORTH THRO
UGH A DOOR.":SE$="A PIPE.":IF T>4993 THEN SE$="A SHORT DWARF SMOKING A
 PIPE."
10013 IF RM=2 THEN LO$ = "ON THE EDGE OF A ROAD.":VE$ = " WEST, SOUTH
,EAST." :SE$="TWO SLEEPING SNARKS TO THE EAST.":IF T>4990THENSE$= "TWO
 SNARKS COMING FROM THE EAST.":VE$ = "WEST ,SOUTH."
10020 IF RM=9THENLO$="ON A ROAD":VE$="EAST, SOUTH.":SE$="NOT A THING."
```

```
10021 IF RM=10THENLO$="ON A ROAD":VE$="EAST, WEST.":SE$="NOTHING"
10022 IF RM=11THENLO$="ON A ROAD":VE$="WEST , SOUTH .":SE$="NOTHING."
10023 IF RM=12THENLO$="IN A GARDEN BESIDE A HOUSE":VE$="EAST , SOUTH ,
 NORTH.":SE$="TREES TO THE SOUTH."
10025 IF K = RM AND RM<>7 AND I <5 THEN SE$=SE$+" and a key."
10026 IF RM=40THENLO$="ON A PATIO SURROUNDED BY THICK VINES.":VE$="TUN
NEL.":SE$="A BIRD WHO JUST DROPPED A PLANK AND IS NOW MILES AWAY."
11000 IF RM=80 THEN LO$="in front of a great stone alter."
11001 IF RM=80 THEN SE$="the Great Lord of DEATH." :VE$="NONE.":RETURN
11004 IFRM=80 THEN GOTO 100
11006 IF RM=8 AND PIP = 9 OR P<>8 THEN SE$="NOTHING."
11007 IF RM=P AND PIP = 0 THEN SE$=SE$+" and a pipe."
20000 RETURN
20500 PRINT:PRINT "    WOULD YOU LIKE YOUR BODY RENEWED FOR ANOTHER GA
ME."
20501 A$=GET$
25002 IF A$ = "Y" THEN RUN
25003 IF RM =9000 AND A$ = "DROP KEY" THEN PRINT " GET STUFFED!   IT M
AY BE VALUABLE."
25005 GOTO 20501
26000 LO$=" In a forest surrounded by trees." :SE$= "NOTHING.":VE$="NO
RTH,SOUTH,EAST,WEST."
26005 RM=9000
26050 RETURN
```

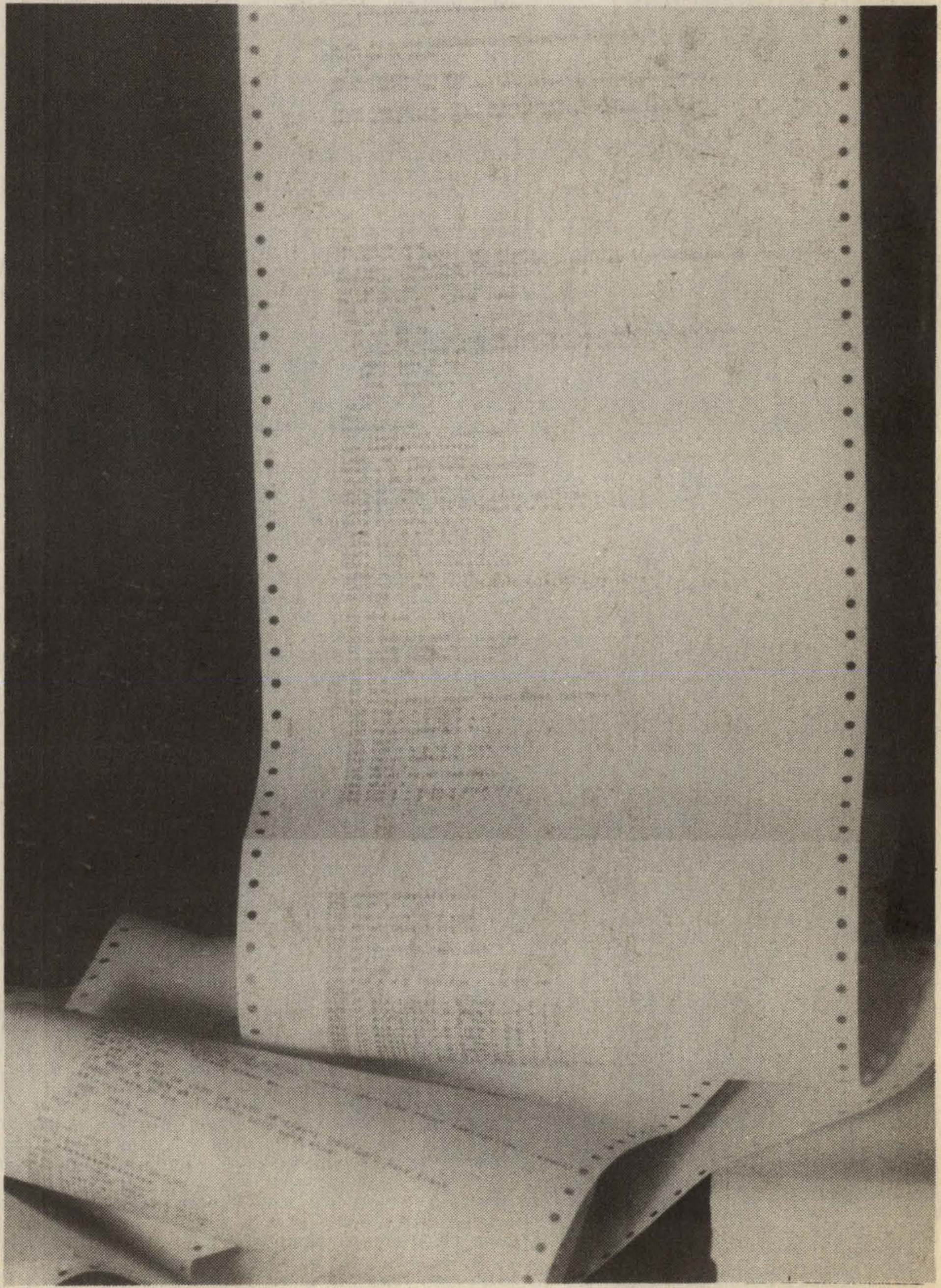
THIRTY STAGES

This game is for the BBC Micro. The object of the game is to get from the battlefield to your home base. Although it sounds easy you'll have to deal with bandits who try to steal your gold. You start off with 100 gold bars; when you reach home base you should have at least 5 left. The rest of the game is explained in the listing.

S. Vrakatselis & D. Mckenzie
Launceston Tas.

```
  0 REM THIRTY STAGES...
  1 REM BY S.VRAKATSELIS & D.MCKENZIE
  2 CLS:PRINT"DO YOU WANT INSTRUCTIONS Y OR N?"
  3 INPUTI$:IFI$="Y"THENPROCINSTRUCTIONS
  4 IFI$="N"THENFORI=1TO500:NEXT
  8
  9 FD=INT(RND(1)*30+100)
 10 G=100
 20 B=INT(RND(1)*3+6)
 30 A=100
 40 AM=10000
 50 F=INT(RND(1)*300+100)
 60 ST=1
 70 SP=INT(RND(1)*140+100)
 75 REM THIS IS THE INFORMATION AVAILABLE ON SCREEN A.
 80 DEFPROCSCREENA
 81 CLS
 90 PRINT" SCREEN  A      STAGE  ";ST
100 IF ST<1 THEN PROCSTAGE2
120 PRINT "SPEED ";SP  ; "  FUEL ";F
130 PRINT "AMMO  ";AM"  GOLD  ";G
140 PRINT "BANDITS  ";B"  ARMOUR ";A"%"
150 PRINT "SCREEN ":INPUTA$
160 IFA$="A"THEN PROCSCREENA
161 IFA$=" "THENPROCSCREENA
170 IFA$="B"THEN PROCSCREENB
171 ENDPROC
180 REM THIS ASKS YOU WHAT YOU WANT TO DO ON SCREEN B.
400 DEFPROCSCREENB
410 CLS:PRINT" SCREEN B           STAGE"ST
420 PRINT"Do you wish to fire?":INPUT A$:PROCFIRE
430 PRINT"Accelerate,brake,or maintain speed?":INPUTA$:PROCABM
440 PRINT"FUEL IN  ";FD"  KILOMETRES"
450 PRINT"Do you wish to stop there?":INPUTA$:PROCSTOPYORN
460 PRINT"Armour points remaining";A"%"
471 PROCSTAGE
476 PRINT"SCREEN":INPUTA$
480 IFA$="A"THEN PROCSCREENA
481 IFA$=" "THENPROCSCREENB
490 IFA$="B"THEN PROCSCREENB
500 ENDPROC
600 DEFPROCFIRE
610 IFA$="Y"THEN AM=AM-900
620 IFAM>9000 THENB=B+4:IFB<1ORB=0THENB=B+5:AM=AM-1500:A=A-1:ENDPROC
621 IFAM>4000ANDAM<9000THENB=B-2:G=G-5:A=A-2:IFA<1ORA=0THENPROCNDA:ENDPROC
630 IFAM<1000 THENB=B-1:AM=AM-1000:A=A-5:IFA<1ORA=0THENPROCNDA:ENDPROC
640 IFAM<1ORA=0THEN PROCNOBULLETS:ENDPROC
650 IFA$="N" THEN ENDPROC
651 IFB=0 ORB<1THEN PROCNOB:ENDPROC
660 ENDPROC
670 DEFPROCNOBULLETS
680 CLS:PRINTTAB(10,10)"NO BULLETS LEFT":FOR I=1 TO 9000:ENDPROC
740 ENDPROC
750 DEFPROCABM
760 IFA$="A"THEN SP=SP+40:F=F-20
770 IFSP>250 THEN PROCSPEED:ENDPROC
780 IF F<1ORF=0THEN PROCEMPTY:ENDPROC
790 IF F>400 THEN PROCTOOMUCH:ENDPROC
```

```
  800 IFA$="B"THEN SP=SP-30:F=F-5:ENDPROC
  810 IFA$="M"THEN F=F-10:ENDPROC
  820 ENDPROC
  830 DEFPROCSTOPYORN
  840 IFA$="Y"THEN SP=SP-SP
  850IFSP=0THEN PRINT"BANDITS FLOG FIVE GOLD BARS":G=G-5:F=F+150:A=A-5:IF A=0 TH
EN PROCENDA:ENDPROC
  870 IFSP=0 AND G>80 THEN CLS:PRINT"BANDITS STEAL YOUR GOLD.":G=G-10:A=A-10:FOR
 I=1 TO 9000:ENDPROC
  880 IFA$="N" AND F=F-10:A=A-5:IFF<1ORF=0 THEN PROCEMPTY:ENDPROC
  890 ENDPROC
  900 DEFPROCEND
  910 CLS:PRINT"AFTER ";ST" STAGES,YOU ARE OUT OF FUEL AND BANDITS STORM YOUR TR
UCK,TAKING YOUR GOLD!"
  920 PROCYORN
  930 DEFPROCSPEED
  940 CLS:PRINT "YOU ARE TRAVELLING AT MAXIMUM SPEED":F=F-50 :SP=SP:IF SP>260 TH
EN SP=SP-20:FOR I=1 TO 9000:ENDPROC
  960 DEFPROCEMPTY
  970 CLS:PRINT"NO FUEL LEFT,BANDITS TAKE YOUR GOLD.":G=G-G:FORI=1TO9000:PROCYOR
N
  980 DEFPROCTOOMUCH
  990 CLS:PRINT "YOU HAVE TOO MUCH PETROL,A LOT JUST SPILLED OUT THE TANK."F=F-1
00:ENDPROC
 1000 DEFPROCSTAGE
 1010 IFA$="Y" OR A$="N" OR A$="A" OR A$="B" OR A$="M"THEN ST=ST+1:ENDPROC
 1020 IFA$<>"Y" OR A$<>"N" OR A$<>"A" OR A$<>"B" OR A$<>"M"THEN ENDPROC
 1030 ENDPROC
 1040 DEFPROCYORN
 1050 PRINT"WANT ANOTHER GO,Y OR N?"
 1060 INPUTA$:IFA$="Y" THEN RUN
 1070 IFA$="N"THEN PRINT"YOU WEREN'T VERY GOOD ANYWAY,GOODBYE!":END
 1080 IFA$=" "THEN PROCYORN
 1090 DEFPROCSTAGE2
 1100 IF ST=30 THEN PROCWIN
 1110 IF ST=<30 AND ST>1 THEN PROCBUMPS:ENDPROC
 1111 IFST=6ORST=8ANDSP=80THENPROCSMALLBUMP:ENDPROC
 1112 IFST=10ORST=29ANDSP=160THENPROCBIGBUMP:ENDPROC
 1120 ENDPROC
 1130 DEFPROCWIN
 1140 CLS:PRINT "CONGRATULATIONS!YOU HAVE REACHED HOME BASE.THESE ARE YOUR RESUL
TS:"
 1150 PRINT"GOLD:"G
 1160 PRINT"ARMOUR:"AM"%"
 1170 PRINT"AMMO:"A
 1180 PRINT"FUEL:"F
 1190 PROCYORN
 1200 DEFPROCBUMPS
 1210 IF SP=80 THEN PROCSMALLBUMP:ENDPROC
 1220 IF SP=160 THEN PROCBIGBUMP:ENDPROC
 1230 ENDPROC
 1240 DEFPROCSMALLBUMP
 1250 CLS:PRINT"YOU HAVE JUST HIT A SMALL BUMP-MOST       BANDITS HAVE FALLEN OFF
"
 1260 B=B-3:ENDPROC
 1270 DEFPROCBIGBUMP
 1280 CLS:PRINT"YOU JUST HIT A BIG BUMP-1 BANDIT GONE    AND 10 BARS OF GOLD WIT
H HIM."
 1290 B=B-1:G=G-10
 1300 ENDPROC
 1310 DEFPROCINSTRUCTIONS
 1315 CLS
 1320 PRINT CHR$(141)"THE THIRTY STAGES"
 1330 PRINT CHR$(141)"THE THIRTY STAGES"
 1340 FOR T=1 TO 5000:NEXT T
 1350 CLS
 1360 PRINT"YOU ARE THE DRIVER OF AN ARMOURED TRUCK AND HAVE BEEN FIGHTING ON TH
E DREADED   -BATTLEGROUND-!"
 1370 PRINT"YOU HAVE BATTLED SUCCESSFULLY AND HAVE  A BOOTY OF 100 GOLD BARS.YOU
 MUST TRY   AND GET THESE BARS TO YOUR HOME BASE."
 1380 PRINT"SOUNDS SIMPLE DOESN'T IT?WELL IT ISN'T! YOU MUST DRIVE THROUGH THIRT
Y STAGES TO GET THERE,AND THERE ARE BANDITS ALL THE WAY! THE BANDITS WILL TRY AN
D STEAL THE GOLD."
 1390 PRINT"THESE BANDITS ARE HIGHLY SKILLED AND    WILL HANG ON TO YOUR MOVING
VEHICLE TO  GET THE GOLD.YOU CAN DEFEND YOURSELF    THOUGH."
 1400 PRINT"ON YOUR PERSON THERE IS A MACHINE-GUN   WITH TEN THOUSAND ROUNDS OF
AMMUNITION  YOU CAN USE THIS ON BANDITS,BUT YOU CAN NOT REPLENISH YOUR AMMO."
 1410 PRINT"HIT RETURN TO CONTINUE"
 1411 INPUTA$:IFA$=" "THENFORI=1TO1000:NEXT
 1420 CLS:PRINT"YOU ALSO HAVE 100 ARMOUR POINTS.BANDITS WILL BREAK THROUGH YOUR
ARMOUR TO TRY   AND GET YOUR GOLD.IF YOU STOP(FOR FUEL) THEN IT WILL MAKE IT EAS
IER FOR THEM.IF YOU GO VERY FAST,THEIR OCCUPATION WILL  BE A HAZARDOUS ONE."
 1430 PRINT"IF YOU STOP FOR FUEL,BANDITS WILL GET   SOME OF YOUR GOLD:IT IS UNAV
OIDABLE.IF  YOU DON'T STOP FOR FUEL THOUGH,YOUR     TRUCK WILL BREAK DOWN,AND TH
EY WILL GET ALL OF IT."
 1440 PRINT"IF YOUR ARMOUR POINTS GET TOO LOW,THEN  BANDITS WILL GET ALL OF YOUR
 GOLD.THERE IS NO WAY TO GET ARMOUR POINTS BACK!"
 1450 PRINT"HIT RETURN TO CONTINUE"
 1451 INPUTA$:IFA$=" "THENFORI=1TO1000:NEXT
 1460 CLS:PRINT"THE BEST WAY TO PROTECT YOUR ARMOUR-AND YOUR GOLD IS TO GO VERY
FAST.HOWEVER    THIS INVOLVES ANOTHER HAZARD.AT RANDOM  SPOTS THROUGHOUT THE THI
RTY STAGES      THERE ARE BUMPS IN THE ROAD."
 1470 PRINT"IF YOU HIT ONE OF THESE BUMPS VERY FAST THEN GOLD WILL BOUNCE OUT OF
 THE TRUCK. IF YOU HIT A SMALL BUMP NOT SO FAST YOU WILL SHAKE ALL THE BANDITS O
FF."
 1480 PRINT"GO NOW-AND FACE THE CHALLENGE OF:          The Thirty Stages!!"
 1995 PRINT"HIT RETURN TO CONTINUE"
 1996 INPUTA$:IFA$=" "THENENDPROC
 2000 ENDPROC
 3000 DEFPROCNOB
 3010 IFB<>0THEN G=G-5:IF B=0 OR B<1THEN B=B+8:ENDPROC
 3011  IFA=0 ORA<1THEN PROCNDA:ENDPROC
 3012 DEFPROCNDA
 3013 CLS:PRINT"NO ARMOUR-BANDITS TAKE ALL YOUR GOLD":G=G-G:PROCEND
 4000 DEFPROCENDA
 4010 CLS:PRINT"ALL ARMOUR RIPPED OFF-BANDITS FLOG YOUR GOLD.":G=G-G:PROCEND
32767
```



MICROBEE

CONVERTER

Converter is a program selection menu with some special functions. These include: erasing files, renaming files, loading files on other disks and so on. This program is for the Premium Series Microbee and if to be used on standard Microbees the 'HI-RESZ' statements should be changed to 'HIRES'.

G. Halliday
Wishart Qld

```
00100 ON ERROR GOTO 1240
00110 CLS:INVERSE:CURS 22,1 :PRINT" SELECTER ":NORMAL
00120 CURS 7,3:PRINT"1. PROGRAM 1 "
00130 CURS 7,4:PRINT"2. PROGRAM 2"
00140 CURS 7,5:PRINT"3. PROGRAM 3"
00150 CURS 7,6:PRINT"4. PROGRAM 4"
00160 CURS 7,7:PRINT"5. PROGRAM 5"
00170 CURS 7,8:PRINT"6. PROGRAM 6"
00180 CURS 7,9 : PRINT "7. PROGRAM 7"
00190 CURS 7,10 : PRINT "8. PROGRAM 8"
00200 CURS 7,11 : PRINT "9. PROGRAM 9"
00210 CURS 7,12 : PRINT "10. PROGRAM 10"
00220 CURS 7,13 : PRINT "11. PROGRAM 11"
00230 CURS 7,14 : PRINT "12. PROGRAM 12"
00240 CURS 35,3 : PRINT "13. PROGRAM 13"
00250 CURS 35,4:PRINT"14. PROGRAM 14"
00260 CURS 35,5:PRINT "15. PROGRAM 15"
00270 CURS 35,6:PRINT "16. PROGRAM 16"
00280 CURS 35,7:PRINT "17. PROGRAM 17"
00290 CURS 35,8:PRINT"18. PROGRAM 18"
00300 CURS 35,9:PRINT "19. PROGRAM 19"
00310 CURS 35,10:PRINT"20. PROGRAM 20"
00320 CURS 35,11:PRINT "21. PROGRAM 21"
00330 CURS 35,12:PRINT "22. PROGRAM 22"
00340 CURS 35,13:PRINT "23. PROGRAM 23"
00350 CURS 35,14:PRINT "24. PROGRAM 25"
00360 CURS 35,15:PRINT "25. MAIN MENU "
00370 CURS 10,14:PRINT:PRINT"WHAT NUMBER WOULD YOU LIKE"
00380 INPUT A
00390 ON A GOTO 410,420,430,440,450,460,470,480,490,500,510,520,530,540,550,560,
570,580,590,600,610,620,630,640,650
00400 IF A>16 THEN GOTO 380
00410 RUN"PROGRAM1"
00420 RUN"PROGRAM2"
00430 RUN"PROGRAM3"
00440 RUN"PROGRAM4"
00450 RUN"PROGRAM5"
00460 RUN"PROGRAM6"
00470 RUN"PROGRAM7"
00480 RUN"PROGRAM8"
00490 RUN"PROGRAM9"
00500 RUN"PROGRAM10"
00510 RUN"PROGRAM11"
00520 RUN"PROGRAM12"
00530 RUN"PROGRAM13"
00540 RUN"PROGRAM14"
00550 RUN"PROGRAM15"
00560 RUN"PROGRAM16"
00570 RUN"PROGRAM17"
00580 RUN"PROGRAM18"
00590 RUN"PROGRAM19"
00600 RUN"PROGRAM20"
00610 RUN"PROGRAM21"
00620 RUN"PROGRAM22"
00630 RUN"PROGRAM23"
00640 RUN"PROGRAM24"
00650CLS:HIRES2:PLOTI 0,255 TO 511,255 TO 511,10 TO 0.10 TO 0,255
00660 PLOTI 0,220 TO 511,220 : PLOTI 0,222 TO 511,222
00670 PLOTI 0,33 TO 511,33:PLOTI 511,12 TO 0,12
00680 CURS 20,2 :PRINT "SELECTER MAIN MENU"
00690 CURS 20,15: PRINT "PROGRAM BY CRAIG HALLIDAY"
00700 CURS 20,4:PRINT "1. KILL A FILE"
00710 CURS 20,5 :PRINT "2. RENAME A FILE"
00720 CURS 20,6:PRINT "3. DISK DIRECTORY"
00730 CURS 20,7:PRINT "4. LOG IN DIFFERENT DISK"
00740 CURS 20,8 :PRINT "5. LOAD A FILE "
00750 CURS 20,9 : PRINT "6. GO BACK TO FIRST MENU"
00760 CURS 20,10 : PRINT "7. GO BACK TO D.O.S."
00770 CURS 10,13: PRINT "INPUT SELECTION";: INPUT B
00780 ON B GOTO 790,900,990,1070,1150,1220,1230
00790CLS:HIRES2:PLOTI 0,255 TO 511,255 TO 511,10 TO 0,10 TO 0,255
00800 PLOTI 0,220 TO 511,220 : PLOTI 0,222 TO 511,222
00810 PLOTI 0,33 TO 511,33:PLOTI 511,12 TO 0,12
00820 CURS 23,2 :PRINT "SELECTER KILL MENU"
00830 CURS 20,15: PRINT "PROGRAM BY CRAIG HALLIDAY"
00840 CURS 12,4 :PRINT "NOTE : DO NOT DELETE FROM ORIGINAL DISK."
00850 CURS 12,5 :PRINT "DELETE ONLY FROM OTHER DISKS. OKAY."
00860 CURS 12,6: PRINT "IF NO FILE TO BE KILLED THEN PRESS <RETURN>"
00870 CURS 12,7 : PRINT "INPUT FILE TO BE DELETED WITH EXTENSION"
00880 CURS 12,8:INPUT F1$
00890 IF F1$ ="" THEN GOTO 650ELSE KILL F1$:GOTO 790
00900CLS:HIRES2:PLOTI 0,255 TO 511,255 TO 511,10 TO 0,10 TO 0,255
00910 PLOTI 0,220 TO 511,220 : PLOTI 0,222 TO 511,222
00920 PLOTI 0,33 TO 511,33:PLOTI 511,12 TO 0,12
00930 CURS 23,2 :PRINT "SELECTER RENAME MENU"
```

```
00940 CURS 7,4:PRINT "NOTE : ENTER ORIGINAL NAME FIRST THEN NEW NAME SECOND."
00950 CURS 14,5:PRINT "REMEMBER TO INCLUDE EXTENSION"
00960 CURS 10,7 : PRINT "OLD NAME ";:INPUT O1$:CURS 10,8 : PRINT "NEW NAME";: IN
PUT N1$
00970 IF O1$="" THEN GOTO 650 : NAME O1$ AS N1$ GOTO 900
00980 NAME O1$ AS N1$:GOTO 650
00990CLS:HIRES2:PLOTI 0,255 TO 511,255 TO 511,220 : PLOTI 0,255 TO 0,220: PLOTI
0,12 TO 0,33 :PLOTI 511,12 TO 511,33
01000 PLOTI 0,220 TO 511,220 : PLOTI 0,222 TO 511,222
01010 PLOTI 0,33 TO 511,33:PLOTI 511,12 TO 0,12
01020 CURS 21,2 :PRINT "SELECTER DIRECTORY MENU"
01030 CURS 20,15: PRINT "PROGRAM BY CRAIG HALLIDAY"
01040 CURS 10,4:PRINT "REMEMBER ONLY DRIVES A,B,M,L"
01050 CURS 10,5 :PRINT "WHICH DRIVE FOR DIRECTORY LIST";:INPUT D1$:CURS 10,5 :DI
R D1$
01060 K1$=KEY$: IF K1$="" THEN 1060 ELSE GOTO 650
01070CLS:HIRES2:PLOTI 0,255 TO 511,255 TO 511,10 TO 0,10 TO 0,255
01080 PLOTI 0,220 TO 511,220 : PLOTI 0,222 TO 511,222
01090 PLOTI 0,33 TO 511,33:PLOTI 511,12 TO 0,12
01100 CURS 20,2 :PRINT "SELECTER LOG IN MENU"
01110 CURS 20,15: PRINT "PROGRAM BY CRAIG HALLIDAY"
01120 CURS 12,4: PRINT"NOTE: SELECT DRIVES A,B,M,L ONLY."
01130 CURS 10,5 :PRINT "WHICH DRIVE TO LOG TO";:INPUT D1$:CURS 10,5 :DISKRESET D
1$
01140 GOTO 650
01150CLS:HIRES2:PLOTI 0,255 TO 511,255 TO 511,10 TO 0,10 TO 0,255
01160 PLOTI 0,220 TO 511,220 : PLOTI 0,222 TO 511,222
01170 PLOTI 0,33 TO 511,33:PLOTI 511,12 TO 0,12
01180 CURS 20,2 :PRINT "SELECTER LOAD MENU"
01190 CURS 20,15: PRINT "PROGRAM BY CRAIG HALLIDAY"
01200 CURS 12,4:PRINT "NOTE : ENTER WHOLE DISK NAME"
01210 CURS 12,6 : PRINT "WHAT PROGRAM TO LOAD";:INPUT P1$: IF P1$="" THEN 650 EL
SE RUN P1$
01220 GOTO 110
01230 SYSTEM
01240 CLS
01250 PRINT "ERROR IN THE PROGRAM, PLEASE PRESS RESET ":GOTO 1250
```

FROGS LEGS

Frog's Legs is a game where you are caught in a marsh with a pair of frog's legs. These legs are in a terrible mood as they have lost their body, therefore everyone they see, they try and kill. See if you can get to the top of the screen without being munched.

You cannot run through any bush, but you are armed with a weeding wand which you can use three times only. You use the wand, when you have no way of getting past the frog's legs, by pressing one of the four keys in the diamond I-J-K-M; I kills a weed above you, M below you, J to the left and K to the right. Movement is achieved by using the keys < for left, and > for right, Q for up and A to go down.

G. Heathcote
Ingleburn NSW

```
00100 REM              FROG'S LEGS......
00110 REM         WRITTEN FOR THE MICROBEE MARCH '86
00120 REM              BY GRAHAM HEATHCOTE
00130 S3$="":S1$="":S2$=""
00140 CLS
00150 FORC=17TO43:CURSC,2:PRINT"-":NEXTC:FORC=17TO43:CURSC,14:PRINT"-":NEXTC
00160 FORC=128+16TO768+17STEP64:CURSC:PRINT"1":NEXTC
00170 FORC=128+42TO768+42STEP64:CURSC:PRINT"1":NEXTC
00180 FORC=3TO12
00190 FORB=18TO42
00200 A=INT(RND*10)+1
00210 IFA<5:I=(64*(C-1))+(B-1):I=I+61440:POKEI,12
00220 NEXTB:NEXTC
00230 X=30:Y=13:POKE((61440+X-1+(64*(Y-1)))),7
00240 F=30:G=7:POKE((61440+F-1+(64*(G-1)))),22
00250 E=3:M1=1
00260 S=PEEK(262):S1$=CHR(S):S2$=S1$:S3$=S1$
00270 IFS=0THEN460
00280 POKE262,0
00290 R=X:T=Y:U=F:V=G
00300 IFS1$="K"ORS1$="J"ORS1$="M"ORS1$="I":IFE>0THEN700
00310 IFS1$="Q":Y=Y-1
00320 IFS1$="A":Y=Y+1
00330 IFS1$=",":X=X-1
00340 IFS1$=".":X=X+1
00350 IFS2$="R":G=G-1
00360 IFS2$="C":G=G+1
00370 IFS3$="D":F=F-1
00380 IFS3$="F":F=F+1
00390 IFS2$="R"ORS2$="C"ORS3$="D"ORS3$="F"THEN530
00400 IFS1$="Q"ORS1$="A"ORS1$=","ORS1$="."THEN650
00410 CURSR,T:PRINT" ":POKE((61440+X-1+(64*(Y-1)))),7
00420 CURSU,V:PRINT" ":POKE((61440+F-1+(64*(G-1)))),22
00430 GOTO260
00440 X=R:Y=T:PLAY2:M1=M1+1:GOTO410
00450 F=U:G=V:GOTO420
00460 IFF<X:S3$="F"
00470 IFF>X:S3$="D"
00480 IFG<Y:S2$="C"
00490 IFG>Y:S2$="R"
00500 IFG=Y:S2$=CHR(0)
00510 IFF=X:S3$=CHR(0)
00520 GOTO290
00530 IFASC(S3$)<>0ANDASC(S2$)><0THEN570ELSEIFASC(S3$)=0THEN540ELSE550
00540 IFS2$="R"ORS2$="C":Q=(64*(G-1))+(F-1):Q=Q+61440:IFPEEK(Q)=32THEN410ELSEIFP
EEK(Q)=7THEN670ELSE450
00550 IFS3$="D"ORS3$="F":Q=(64*(G-1))+(F-1):Q=Q+61440:IFPEEK(Q)=32THEN410ELSEIFP
EEK(Q)=7THEN670ELSE450
00560 GOTO450
```

```
00570 Q=(64*(G-1))+(F-1):Q=Q+61440
00580 IFPEEK(Q)=32THEN410
00590 IFPEEK(Q)=7THEN670
00600 IFS3$="F":IFPEEK(Q-1)=32:F=F-1:GOTO410
00610 IFS3$="D":IFPEEK(Q+1)=32:F=F+1:GOTO410
00620 IFS2$="C":IFPEEK(Q-64)=32:G=G-1:GOTO410
00630 IFS2$="R":IFPEEK(Q+64)=32:G=G+1:GOTO410
00640 GOTO450
00650 Z=(64*(Y-1))+(X-1):IFPEEK(Z+61440)=32THEN410ELSEIFPEEK(61440+Z)=45ANDY=2TH
EN660ELSEIFPEEK(61440+Z)=22THEN670ELSE440
00660 PLAY12;13;14;15:CURS1:PRINT"YOU WIN!!":GOTO680
00670 CURSU,V:PRINT" ":CURSF,G:PRINT"X":PLAY4;3;2;1:CURS1:PRINT"YOU LOSE!!!":E=
0
00680 PRINT"YOUR SCORE IS "INT(FLT(E)/M1*100)
00690 PRINT"PRESS ANY KEY TO GO AGAIN ":S=USR(32774):RUN
00700 IFS1$="K":D=((61440+X+(64*(Y-1))))
00710 IFS1$="J":D=((61440+X-2+(64*(Y-1))))
00720 IFS1$="I":D=((61440+X-65+(64*(Y-1))))
00730 IFS1$="M":D=((61440+X+63+(64*(Y-1))))
00740 IFPEEK(D)<>12THEN260
00750 E=E-1:POKED,32:GOTO260
```

MAZE SEARCH

This game is something a little different which I wrote about two years ago. By using (, /, ; and @ for up, down, left and right respectively, we manouvre around the maze quite blindly using memory and logic as our navigation. If you must cheat, press H for a hires locator plan (the target flashes), but this will cost you. The more you wander around, the more points get chewed up! Replenish your score by swallowing (spacebar) the spots when you find them. Use the REMs for a title page of your own design (I'm too lazy!)

F. Gonzalez
Edinburgh SA

```
00100 REM This game is something a little different which I wrote about
00110 REM two years ago and never got around to sending in. By using the
00120 REM    [ / ; @  for up down left and right respectively, we
00130 REM maneouvre around the maze quite blindly using memory and
00140 REM logic as our navigation. If you must cheat, press H for a
00150 REM hires locator plan (the target flashes), but this will cost you.
00160 REM  The more you wander around, the more points get chewed up!
00170 REM Replenish your score by swallowing
00180 REM  (spacebar) the spots when you find them.
00190 REM Use these REMs for a title page of your own design (I'm too lazy!)
00200 REM   Fernando C Gonzalez  492CMI RAAF BASE EDINBURGH 5111
00210 CLS: INPUT"How many spots ? "V
00220 LORES: DIM M(100): POKE 220,16
00230 FOR A=0 TO 99
00240 READ M(A)
00250 NEXT A
00260 Z=1: Q=0
00270 T=INT(RND*100)+1
00280 A=INT(RND*100)+1
00290 IF Q=V THEN 540 ELSE LET S1=FLT(M(A))
00300 M1=FLT(INT(S1/1000))
00310 C1=FLT(INT(S1-1000*M1)/100)
00320 D1=FLT(INT(S1-1000*M1-100*C1)/10)
00330 U1=FLT(INT(S1-1000*M1-100*C1-10*D1))
00340 CLS: Z=Z-1: IF A=T THEN PLOT 63,24 TO 65,24: PLOTH 63,24 TO 65,24
00350 IF U1=1 THEN PLOT 20,40 TO 107,40 ELSE PLOT 20,40 TO 20,47: PLOT 107,40 TO
 107,47
00360 IF D1=1 THEN PLOT 107,40 TO 107,10 ELSE PLOT 107,40 TO 127,40: PLOT 107,10
 TO 127,10
00370 IF C1=1 THEN PLOT 20,10 TO 107,10 ELSE PLOT 20,10 TO 20,0: PLOT 107,10 TO
107,0
00380 IF M1=1 THEN PLOT 20,10 TO 20,40 ELSE PLOT 20,10 TO 0,10: PLOT 20,40 TO 0,
40
00390 CURS 28,14: PRINT "Score" Z
00400 K1$=KEY$: IF K1$=""THEN 400
00410 IF (K1$=";"OR K1$="+") AND M1=0 THEN LET A=A-1: GOTO 290
00420 IF (K1$="[" OR K1$="(") AND U1=0 THEN LET A=A-10: GOTO 290
00430 IF (K1$="@" OR K1$="'") AND D1=0 THEN LET A=A+1: GOTO 290
00440 IF (K1$="/" OR K1$="?") AND C1=0 THEN LET A=A+10: GOTO 290
00450 IF K1$=" " AND T=A THEN LET Z=Z+50: Q=Q+1: PRINT"": T=INT(RND*100):REM pri
nt"" is actually print"(control G)"
00460 IF K1$="H" OR K1$="h"THEN LET Z=Z-9 ELSE 290
00470 HIRES: PLOT 78,48 TO 78,142 TO 282,142 TO 282,48 TO 78,48
00480 Y=140-10*INT(FLT(T/10)): X=80+20*(T-10*INT(FLT(T/10)))
00490 SET X,Y:SET X+1,Y: SET X+1,Y+1: SET X,Y+1
00500 E=140-10*INT(FLT(A/10)): D=80+20*(A-10*INT(FLT(A/10)))
00510 SET D,E:SET D+1,E:SET D+1,E+1:SET D,E+1
00520 FOR G=1 TO 6:RESET D,E:RESET D+1,E:RESET D,E+1:RESET D+1,E+1:PLAY 0,4:SET
D,E:SET D+1,E:SET D+1,E+1:SET D,E+1:PLAY 0,4:NEXT G
00530 CLS: LORES: GOTO 290
00540 CLS: POKE 220,111: INVERSE: CURS12,8: PRINT "CONGRATULATIONS"
00550 NORMAL: CURS12,12: PRINT "Your score is " Z
00560 DATA 1001,1,101,11,1001,111,1011,1001,111,1011
00570 DATA 1110,1100,11,1100,100,101,100,0,101,110
00580 DATA 1001,111,1010,1011,1001,101,11,1010,1101,11
00590 DATA 1010,1001,110,1010,1010,1011,1110,1010,1011,1010
00600 DATA 1000,0,11,1100,0,0,101,100,10,1010
00610 DATA 1010,1110,1100,101,0,0,101,111,1010,1010
00620 DATA 1000,101,101,101,10,1010,1011,1001,100,10
00630 DATA 1010,1101,1,101,10,1100,10,1100,111,1010
00640 DATA 1010,1001,110,1011,1100,111,1100,101,111,1010
00650 DATA 1100,100,101,100,101,101,101,101,101,110
```

MAZE RACER

See how far you can get with this real time puzzle game. I've found that if you're not too good the losing tune will drive you crazy!

F. Gonzalez
Edinburgh SA

```
00100 CLS: F=0
00110 PRINT "Q = UP"
00120 PRINT "A = DOWN"
00130 PRINT "@ = LEFT"
00140 PRINT "\ = RIGHT"
00150 PLAY 0,32
00160 CLS
00170 LORES
00180 PLOT 0,0 TO 98,0 TO 98,36 TO 14,36 TO 14,12 TO 70,12 TO 70,24 TO 42,24
00190 PLOT 98,42 TO 0,42 TO 0,6 TO 84,6 TO 84,30 TO 28,30 TO 28,18 TO 56,18
00200 X=0: Y=3: A=1: B=0
00210 SET X,Y
00220 IF PEEK(258)=17 THEN 270
00230 IFPEEK (258)=1 THEN 280
00240 IF PEEK(258)=0 THEN 290
00250 IF PEEK(258)=28 THEN 300
00260 X=X+A: Y=Y+B: IF X=120 THEN LETF=F+1: GOTO 330 ELSE IF POINT(X,Y) THEN 310
 ELSE 210
00270 OUT 2,64: OUT 2,0: B=1: A=0: GOTO 260
00280 OUT 2,64: OUT 2,0: B=-1: A=0: GOTO 260
00290 OUT 2,64: OUT 2,0: B=0: A=-1: GOTO260
00300 OUT 2,64: OUT 2,0: B=0: A=1: GOTO 260
00310 CURS 30,8: PLAY 5,5;5,5;5,2;5,6;8,5;7,2;7,5;5,2;5,5;4,2;5,5
00320 PLAY 0,32: GOTO 100
00330 CLS
00340 LORES: IF F>1 THEN 400
00350 PLOT 0,40 TO 30,40 TO 30,24 TO 10,24: PLOT 30,40 TO 60,40 TO 60,24 TO 50,2
4: PLOT 60,24 TO 60,8 TO 10,8
00360 PLOT 60,40 TO 80,40 TO 80,8: PLOT 80,40 TO 100,40 TO 100,8: PLOT 20,32 TO
0,32 TO 0,16 TO 40,16 TO 40,32 TO 50,32
00370 PLOT 40,16 TO 50,16: PLOT 0,16 TO 0,0 TO 70,0 TO 70,32: PLOT 70,0 TO 90,0
TO 90,32: PLOT 90,0 TO 100,0
00380 X=0: Y=Y-3: A=1: B=0
00390 GOTO 210
00400 IF F>2 THEN 440 ELSE PLOT 0,0 TO 40,0 TO 90,14:PLOT 0,10 TO 20,10 TO 90,32
00410 X=0: Y=5: A=1: B=0
00420 GOTO 210
00430 LORES: CLS: IF F>3 THEN 520
00440 PLOT 0,5 TO 0,47 TO 100,47: PLOT 0,20 TO 75,20 TO 75,10: PLOT 12,15 TO 12,
0: PLOT 24,20 TO 24,5: PLOT 36,15 TO 36,5 TO 86,5 TO 86,25
00450 PLOT 0,0 TO 100,0 TO 100,42: PLOT 12,25 TO 98,25 TO 98,43: PLOT 86,47 TO 8
6,30 TO 79,30 TO 79,47: PLOT 36,37 TO 63,37 TO 63,30 TO 0,30
00460 PLOT 75,25 TO 75,40 TO 12,40 TO 12,34 TO 60,34: PLOT 12,43 TO 24,47: PLOT
36,40 TO 48,44: PLOT 63,43 TO 75,47
00470 PLOT 48,8 TO 48,17 TO 63,17 TO 63,8 TO 48,8
00480 X=0: Y=3: A=1: B=0
00490 GOTO 210
00500 IF F>4 THEN 570
00510 CLS: LORES
00520 PLOT 0,0 TO 119,0 TO 119,36 TO 0,36 TO 0,4 TO 105,4 TO 105,28 TO 28,28 TO
28,12 TO 77,12 TO 77,20 TO 56,20
00530 PLOT 0,2 TO 112,2 TO 112,30 TO 21,30 TO 21,10 TO 84,10 TO 84,22 TO 49,22 T
O 49,18 TO 70,18 TO 70,14 TO 35,14 TO 35,26 TO 98,26 TO 98,6 TO 7,6 TO 7,34 TO 1
12,34
00540 PLOT 119,32 TO 14,32 TO 14,8 TO 91,8 TO 91,24 TO 42,24 TO 42,16 TO 63,16
00550 X=0: Y=1: A=1: B=0
00560 GOTO 210
00570 REM
```

microbee
64K DYNAMIC

HORSE RACE

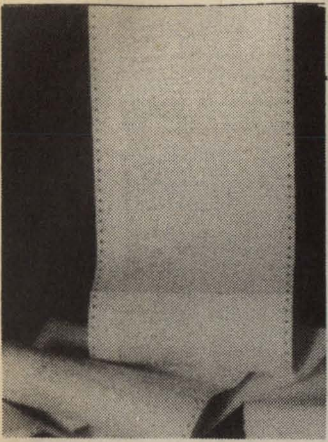
Horse Race, as its name suggests, is a horse racing program for the Microbee. It features excellent PCG graphics and can handle up to six players. To play the game, enter the number of players and their names and start betting. The game ends when all players are broke or all but one are broke.

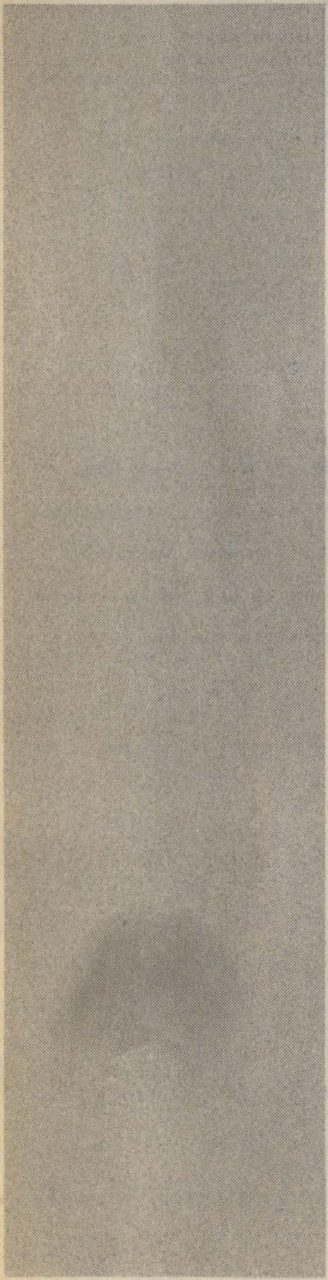
What determines whether a horse wins or not? It's a combination of the horse's odds and randominity. Line 820 in the program controls this. You can also change the horses' names by changing the data at line 1160 to 1180 — but be sure there are six names in total!

S. Machin
Lismore Heights NSW

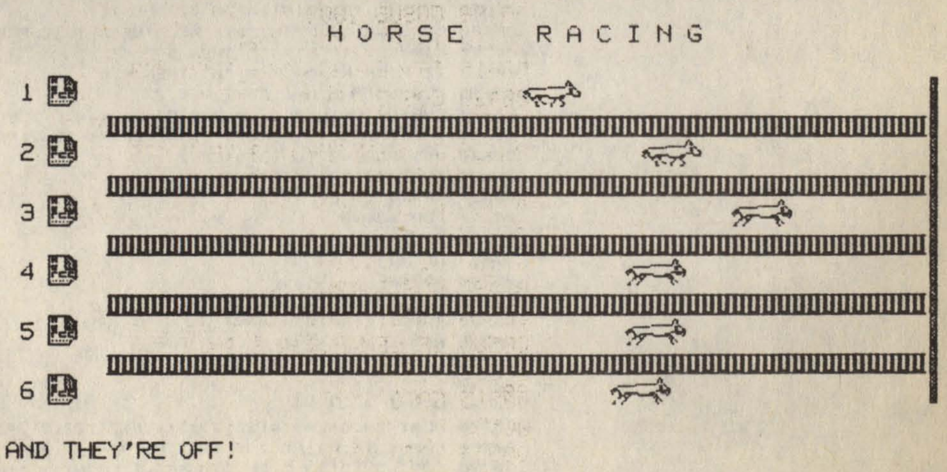
```
00100 REM       *    *   ***   ****    ***    *****
00110 REM       *    *  *   *  *   *  *   *   *
00120 REM       ******  *   *  ****   *       ***
00130 REM       *    *  *   *  *   *  *   *   *
00140 REM       *    *   ***   *    *  ***    *****
00150 REM
00160 REM           ****    ***    ***   *****
00170 REM           *   *  *   *  *   *  *
00180 REM           ****   *****  *      ***
00190 REM           *   *  *   *  *   *  *
00200 REM           *    * *   *   ***   *****
00210 REM
00220 REM             BY SEAN MACHIN   1986
00230 REM
00240 REM               FOR THE MICROBEE
00250 REM
00260 SD6:SPEED0:CLS:CLEAR:RESTORE:POKE 220,85:REM ERASE CURSOR
00270 DIM H1(5),O(5),P(5,2)
00280 CLS:CURS20:INVERSE:PRINT" H O R S E     R A C I N G ":NORMAL
00290 FORI=0 TO 5
00300 READ H1$(I):REM READ HORSE'S NAMES
00310 O(I)=INT(RND*15)+8:REM GIVE THEM EACH SOME RANDOM ODDS
00320 NEXTI
00330 RESTORE 1200:FORI=0 TO 5:FORR=1 TO 2:READ P(I,R):NEXTR:NEXTI
00340 POKE 220,64:CURS 20,5:INPUT"HOW MANY PLAYERS ARE THERE?";P1
00350 IF P1<1 THEN 340 ELSE IF P1>6:CURS 16,7:PRINT"SORRY, YOU ARE ONLY ALLOWED
6 PLAYERS":GOSUB1140:CURS 1,7:PRINT[A64 32]:GOTO 340
00360 P2=P1
00370 DIM P0(INT(P1)),A0(INT(P1)),B0(INT(P1)),H0(INT(P1)):R0=RND*400+50
00380 FORI=1 TO INT(P1)
00390 CURS 5,I+8:PRINT"ENTER YOUR NAME PLAYER";I"  ";
00400 INPUT P0$(I):IF P0$(I)="" THEN 390
00410 A0(I)=R0:B0(I)=0:H0(I)=0
00420 NEXTI
00430 CLS:POKE 220,85
00440 CURS20:INVERSE:PRINT" H O R S E     R A C I N G ":NORMAL
00450 PRINT"TODAY's  SIX  HORSES  AND  THEIR ODDS:-"
00460 FORI=0 TO 5
00470 IF O(I)<1:O(I)=1 ELSE IF O(I)>25:O(I)=25
00480 PRINT"HORSE NO.";I+1,"'";H1$(I);"'":CURS38,I+3:PRINT[I4 O(I)];"   TO   1
"

00490 NEXTI
00500 FORI=1 TO INT(P2)
00510 IF INT(A0(I))<1 THEN 570
00520 POKE 220,64:CURS 1,10:PRINT[A63 32]:CURS 1,10:PRINT P0$(I)", YOU HAVE $"[F
8.0 A0(I)]"  HOW MUCH ARE YOU WILLING TO BET";:INPUTB0(I):POKE 220,85
00530 CURS1,11:IF B0(I)>A0(I):PRINT"YOU DON'T HAVE THAT MUCH!":GOSUB1140:CURS 1,
11:PRINT[A50 32]:GOTO 520
00540 CURS1,11:IF B0(I)<1:PRINT"YOU HAVE TO BET SOMETHING!":GOSUB1140:CURS 1,11:
PRINT[A50 32]:GOTO 520
00550 POKE 220,64:CURS 1,11:INPUT"WHICH HORSE DO YOU WANT TO BET ON";H0(I):POKE
220,85
00560 CURS 1,12:IF H0(I)<1 OR H0(I)>6:PRINT"NO SUCH HORSE!":GOSUB1140:CURS 1,12:
PRINT[A50 32]:GOTO 550
00570 CURS 1,10:PRINT[A128 32]:NEXTI
00580 CURS 20,13:PRINT"ARE ALL THE BETS CORRECT?"
00590 K1$=KEY:IF K1$="" THEN 590
00600 IF K1$="N" OR K1$="n" THEN 430
00610 CLS:NORMAL:N=1:POKE 220,27
00620 CURS20:PRINT" H O R S E     R A C I N G ":GOSUB 1080
00630 RESTORE 1200:FORI=0 TO 5:FORR=1 TO 2:READ P(I,R):NEXTR:NEXTI
00640 PCG:FORI=3 TO 13 STEP 2
00650 CURS4,I:PRINT"IJCD"
00660 NEXTI
00670 FORI=3 TO 13
00680 CURS63,I:PRINT"K"
00690 NEXTI
00700 NORMAL
00710 FORI=3 TO 13 STEP 2
00720 CURS1,I:PRINTN:N=N+1
00730 NEXTI
00740 N=0:FORI=4 TO 12 STEP 2
00750 CURS8,I:PRINT [A55 204]
00760 NEXTI
00770 PLAY 20,4;20;24;23;22;21;24;23;22;21,4;0;16;17;14;15;12;13;13,8;0,4
00780 CURS1,15:PRINT"AND THEY'RE OFF!"
00790 FORI=3 TO 13 STEP 2:CURS6,I:PRINT"   ":NEXTI
00800 IF P(N,1)>56 THEN 850
00810 N=N+1:IF N>5:N=0
00820 P(N,1)=P(N,1)+INT(RND*3+25/FLT(O(N))*.04):REM ALGORITHM TO WORK OUT HOW FA
R FORWAD EACH HORSE GOES
00830 GOSUB 1040
00840 GOTO 800
00850 CURS1,14:PRINT[A126 32]
```





```
00860 CURS1,15:PRINTH1$(N)" WON!"
00870 PLAY 14;12;16;18;12;16;14,4
00880 GOSUB1140
00890 N=N+1:CLS:INVERSE:CURS 20,1:PRINT"---=== THE RESULTS ===---"\\:NORMAL
00900 W0=0:FORI=1 TO INT(P2)
00910 IF INT(A0(I))<1 THEN LET W0=W0+1:GOTO 940 ELSE PRINT P0$(I)" ";
00920 IF H0(I)<>FLT(N):PRINT"LOST $"INT(B0(I));:A0(I)=A0(I)-B0(I):IF A0(I)<I:P1=
P1-1:PRINT" >>>>> YOU ARE BROKE!":W0=W0+1 ELSE IF H0(I)<>FLT(N):PRINT",  YOU NOW
 HAVE $"[F8.0 A0(I)]
00930 IF INT(H0(I))=N:INVERSE:PRINT"WON $"[F7.0 B0(I)*FLT(O(N-1))]"  YOU NOW HAV
E $";:A0(I)=A0(I)+FLT(O(N-1))*B0(I):PRINT [F8.0 A0(I)]:NORMAL
00940 NEXTI
00950 IF W0<P2-1 THEN 990 ELSE LET I=0
00960 IF W0=P2 AND P2>1:PRINT\\"YOU ALL LOST!":POKE 220,111:END ELSE IF W0=P2:PR
INT\\"YOU LOST":POKE 220,111:END
00970 I=I+1:IF A0(I)<1 THEN 970
00980 IF P2<>1:PRINT\\"CONGRATULATIONS "P0$(I)", YOU ARE THE WINNER!":POKE 220,1
11:END
00990 GOSUB1140
01000 FORI=0 TO 5
01010 IF I+1=N:O(I)=O(I)-1 ELSE LET O(I)=O(I)+1
01020 NEXTI
01030 GOTO 430
01040 IF P(N,1)>57:P(N,1)=57
01050 CURSP(N,1),P(N,2):PCG:T0=RND
01060 IF T0<.5:PRINT"   ABCD";:NORMAL:RETURN
01070 PRINT"   EFGH";:NORMAL:RETURN
01080 RESTORE 1220
01090 FORI=-1008 TO -817
01100 READQ:POKE I,Q
01110 NEXTI
01120 FORI=-1536 TO -1521:POKE I,0:NEXTI:RETURN
01130 REM WAIT FOR KEYBOARD INPUT
01140 IF KEY="" THEN 1140 ELSE RETURN
01150 REM DATA FOR HORSE'S NAMES
01160 DATA"REDSKIN","PRINCE DANIEL"
01170 DATA"ODYSSEY","MR T.","GOOD VICTORY"
01180 DATA"FIGHTING FURY"
01190 REM HORSE STARTING POSITION DATA
01200 DATA 7,3,7,5,7,7,7,9,7,11,7,13
01210 REM PCG DATA
01220 DATA 0,0,0,0,0,0,15,48,80,168,68,7,12,16,33,98
01230 DATA 0,0,0,0,0,7,248,0,0,0,254,33,192,128,0,0
01240 DATA 0,0,0,0,0,255,0,0,0,0,7,254,1,0,0,0
01250 DATA 0,0,32,80,80,136,52,50,1,255,29,130,64,160,144,64
01260 DATA 0,0,0,0,0,0,15,48,80,40,72,39,2,1,0,0
01270 DATA 0,0,0,0,0,7,248,0,0,0,254,97,32,144,140,192
01280 DATA 0,0,0,0,0,255,0,0,0,0,7,254,36,66,129,134
01290 DATA 0,0,64,160,176,8,52,50,1,241,15,0,0,0,0,0
01300 DATA 255,168,184,168,128,184,168,184,128,187,162,163,128,170,128,255
01310 DATA 240,88,108,87,107,85,107,127,1,221,17,221,3,172,8,240
01320 DATA 60,52,44,52,44,52,44,52,44,52,44,52,44,52,44,60
01330 DATA 0,0,0,0,0,255,102,102,102,102,102,102,102,102,126,255
```



```
                    H O R S E   R A C I N G

1
2
3
4
5
6

AND THEY'RE OFF!
```

PICK A CARD

This program will allow a computer to select any randomly chosen card from a standard deck. The player just has to answer 'yes' to the computer's statements as they appear on the screen.

The secret is in how the operator uses the space bar when answering. If the space bar is used, then the program will branch to the appropriate routine.

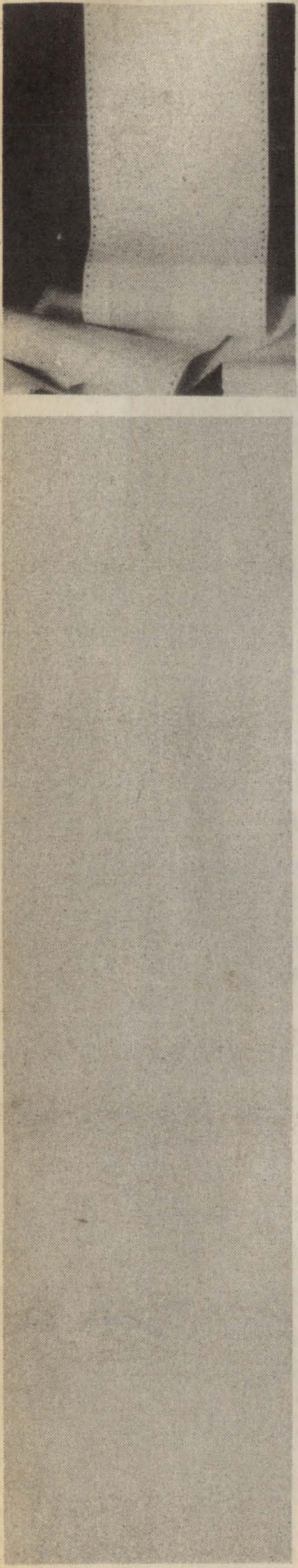
For example, if the chosen card is black, then the answer to 'Have you chosen a card?' will be 'YES—' (extra space). This will cause the next statement, line 305, 'Your card is black, right?' to appear.

Run the program and study the listing and you will soon see its operation. When you've got it right you will confound your friends.

The sub-routine at line 1000 is simply a ruse to waste time in order to give the player the opportunity to think about his or her replies to the computer's statements.

A. Birmingham
Baulkham Hills NSW

```
00050 CLS:PRINT\\
00060 PRINT,"PICK A CARD FROM AN ORDINARY PACK,"
00065 PRINT,"ANSWER MY STATEMENTS AND I WILL"
00070 PRINT,"SELECT THE CARD THAT YOU HAVE CHOSEN"
00090 PRINT\
00100 PRINT,"HAVE YOU SELECTED A CARD?"
00105 INPUT"           PLEASE TYPE YES OR NO."A0$
00110 IF ASC(A0$)= 89 THEN 200
00115 IF ASC(A0$)= 78 THEN 125
00120 PRINT, "ILLEGAL ENTRY, PLEASE TYPE YES OR NO"
00125 PRINT, "I WILL THINK FOR A WHILE "
00126 GOSUB 1000
00130 PRINT, "UNTIL YOU'RE READY"
00135 GOSUB 1000
00140 CLS:GOTO 90
00200 IF LEN(A0$)<>3 THEN 300
00205 GOSUB 1000
00210 INPUT" YOUR CARD IS RED, CORRECT? "A0$
00211 IF LEN(A0$)<>3 THEN 250
00215 S = 1
00220 GOSUB 1000
00225 INPUT" YOUR CARD IS A DIAMOND     "A0$
00230 GOTO 400
00250 S = 2
00255 GOSUB 1000
00260 INPUT" YOUR CARD IS A HEART       "A0$
00265 GOTO 400
00300 GOSUB 1000
00305 INPUT" YOUR CARD IS BLACK, RIGHT? "A0$
00310 IF  LEN(A0$)<>3 THEN 350
00315 S = 3
00320 GOSUB 1000
00325 INPUT" YOUR CARD IS A CLUB        "A0$
00330 GOTO 400
00350 GOSUB 1000
00355 S = 4
00360 INPUT" YOUR CARD IS A SPADE       "A0$
00400 IF LEN(A0$)<>3 THEN 700
00405 GOSUB 1000
00406 INPUT" YOUR CARD IS 8 OR LESS     "A0$
00407 IF LEN(A0$)<>3 THEN 600
00408 GOSUB 1000
00410 INPUT" YOUR CARD IS A 2,3,4,OR 5  "A0$
00415 IF LEN(A0$)<>3 THEN 490
00420 GOSUB 1000
00425 INPUT" YOUR CARD IS A 2 0R 3      "A0$
00430 IF LEN(A0$)<>3 THEN 475
00435 V = 2
00440 GOTO 1500
00475 V = 3
00480 GOTO 1500
00490 GOSUB 1000
00500 INPUT" YOUR CARD IS A 4 OR 5      "A0$
00505 IF LEN(A0$)<>3 THEN 550
00510 V = 4
00515 GOTO 1500
00550 V = 5
00555 GOTO 1500
00600 GOSUB 1000
00605 INPUT" YOUR CARD IS A 6,7, OR 8   "A0$
00608 GOSUB 1000
00610 IF LEN(A0$)<>3 THEN 650
00615 INPUT" YOUR CARD IS A 6 OR 7      "A0$
00620 IF LEN(A0$)<>3 THEN 635
```



```
00625 V = 6
00630 GOTO 1500
00635 V = 7
00640 GOTO 1500
00650 V=8
00652 GOTO 1500
00700 GOSUB 1000
00705 INPUT" YOUR CARD IS A 9 OR GREATER"A0$
00710 IF LEN(A0$)<>3 THEN 940
00715 GOSUB 1000
00720 INPUT" YOUR CARD IS A 9,10,J,OR Q "A0$
00721 GOSUB 1000
00725 IF LEN(A0$)<>3 THEN 800
00730 INPUT" YOUR CARD IS A 9 OR 10      "A0$
00735 IF LEN(A0$)<>3 THEN 750
00740 V = 9
00745 GOTO 1500
00750 V = 10
00755 GOTO 1500
00800 INPUT" YOUR CARD IS A J OR Q       "A0$
00805 IF LEN(A0$)<>3 THEN 900
00810 V =11
00815 GOTO 1500
00900 V = 12
00905 GOTO 1500
00940 GOSUB 1000
00950 INPUT" YOUR CARD IS A K OR A       "A0$
00951 IF LEN(A0$)<>3 THEN 975
00952 V= 13
00955 GOTO 1500
00975 V = 14
00976 GOTO 1500
01000 FOR I=1 TO 1000
01010 NEXT I:RETURN
01500 GOSUB 1000
01502 GOTO 1500 +V*5
01510 GOSUB 1600
01511 PRINT" TWO OF ";
01512 GOTO 1700
01515 GOSUB 1600
01516 PRINT" THREE OF ";
01517 GOTO 1700
01520 GOSUB 1600
01521 PRINT" FOUR OF ";
01522 GOTO 1700
01525 GOSUB 1600
01526 PRINT" FIVE OF ";
01527 GOTO 1700
01530 GOSUB 1600
01531 PRINT " SIX OF ";
01532 GOTO 1700
01535 GOSUB 1600
01536 PRINT" SEVEN OF ";
01537 GOTO 1700
01540 GOSUB 1600
01541 PRINT " EIGHT OF ";
01542 GOTO 1700
01545 GOSUB 1600
01546 PRINT" NINE OF ";
01547 GOTO 1700
01550 GOSUB 1600
01551 PRINT " TEN OF ";
01552 GOTO 1700
01555 GOSUB 1600
01556 PRINT " JACK OF ";
01557 GOTO 1700
01560 GOSUB 1600
01561 PRINT " QUEEN OF ";
01562 GOTO 1700
01565 GOSUB 1600
01566 PRINT " KING OF ";
01567 GOTO 1700
01570 GOSUB 1600
01571 PRINT" ACE OF ";
01572 GOTO 1700
01600 PRINT" YOUR CARD IS THE";
01601 RETURN
01700 GOTO 1700 +S*5
01705 PRINT"DIAMONDS"\
01706 GOTO 1800
01710 PRINT"HEARTS"\
01711 GOTO 1800
01715 PRINT"CLUBS"\
01716 GOTO 1800
01720 PRINT"SPADES"\
01800 END
```

MICROBASE

This program allows you to use your computer as a super efficient filing system. You can file cards, edit them or search for a word or part of a word on any card.

With Microbase you can 'tailor make' your own filing system as long as you use 10 headings or less on each card. You are not restricted by set headings. Each filing system is stored along with its cards as a machine language file, so that you can load and use one filing system after the other.

Microbase has a main menu and a card menu. The main menu allows you to –

1. Set up a new system.
2. Load system files.
3. Save system files.
4. Flick through files.
5. Search.
6. Insert new card.
7. Print entire system.
8. Retrieve stores files.

The card menu will allow you to flick backwards (<a), flick forwards (>s), stop at that card (pause), print out that card (hardcopy), alter that card (edit), return to the main menu (menu), remove that card (delete), or continue searching (cont).

To set up your own filing system, you simply choose option 1 from the main menu and answer the questions. The main heading that you are asked for is the heading that will contain the card entry to be alphanumerically sorted.

Once the parameters for your system have been set, you will be returned to the main menu. From there, you should choose option 6 to insert your first card into the system. You then need to enter your information under each heading. When that card is complete, you will be shown the card with the card menu at the top of the screen. You should now press M to return to the main menu and insert a new card. Each new card is inserted in its correct place according to the information under heading 0 (the main heading).

When you have finished inserting all your cards, you should flick through them, controlling the flicking with the keys A (left), S (right), and P (pause). (The A and S are a remnant from the MC-10 which has arrows on these keys, but there should be

```
0 CLS:CLEAR2500,29000:GOSUB500
1 CLS:PRINT"MICROBASE FOR THE CO
CO-          BY G.POLLOCK JAN '86
"
2 GOTO10
3 FORSV=1TO33:FORT=1TO3000:NEXTT
:CSAVE"MCBASE":PRINTSV:NEXTSV:EN
D
10 PRINT:PRINT"CHOOSE":PRINT
15 DL=500:MC=100
20 PRINT"1.SET UP NEW SYSTEM"
30 PRINT"2.LOAD SYSTEM FILES"
40 PRINT"3.SAVE SYSTEM FILES"
50 PRINT"4.FLICK THROUGH FILES"
60 PRINT"5.SEARCH"
70 PRINT"6.INSERT NEW CARD"
80 PRINT"7.PRINT ENTIRE SYSTEM"
85 PRINT"8.RETRIEVE STORED FILES
"
90 GOSUB4800
100 N=VAL(I$)
110 ON N GOTO1000,2000,3000,4000
,5000,6000,7000,8000
120 GOTO1
500 DIMA$(10,100):DL=500:MC=100:
RETURN
1000 REM SET UP
1005 CLS:CLEAR6500,29000:GOSUB50
0
1010 CLS:INPUT"SYSTEM NAME";NM$
1015 PRINT"MAIN HEADING ";:GOSUB
1500:A$(0,0)=IK$
1020 INPUT"HOW MANY OTHER HEADIN
GS";NH
1030 FORI=1TONH
1040 PRINT"HEADING#";I;:GOSUB150
0:A$(I,0)=IK$
1050 NEXTI
1060 GOTO1
1500 IK$="":PRINTCHR$(128);
1510 GOSUB4800
1520 IFI$=CHR$(13)THENPRINTCHR$(
8):RETURN
1530 PRINTCHR$(8);I$;CHR$(128);
1540 IFI$=CHR$(8)THEN1560
1550 IK$=IK$+I$:GOTO1510
1560 IFIK$=""THEN1510
1570 IK$=LEFT$(IK$,LEN(IK$)-1):G
OTO1510
2000 REM CLOADM
2010 CLS:CLEAR6500,29000:GOSUB50
0
2020 INPUT "FILENAME";NM$
2030 PRINT"PRESS PLAY ON TAPE"
2040 CLOADM NM$
2050 SOUND100,2
2060 CLS:PRINT"SORTING FILES"
2062 FORT=1TODL:NEXTT
2065 POKE65497,0
2070 M=29000
2075 M=M+1
2080 M=M+1:IFPEEK(M)=0THEN2110
2090 NM$=NM$+CHR$(PEEK(M))
2100 GOTO2080
2110 M=M+1:NH=PEEK(M)
2115 M=M+1
2120 FORJ=0TOMC
2130 FORI=0TONH
2140 M=M+1:IFPEEK(M)=0THEN2165
2150 A$(I,J)=A$(I,J)+CHR$(PEEK(M
))
2160 GOTO2140
2165 IFPEEK(M+1)=0THENHC=J:POKE6
5496,0:GOTO1
2170 NEXTI
2180 NEXTJ
3000 REM CSAVE
3010 CLS:PRINT"PLEASE WAIT"
3012 FORT=1TODL:NEXTT
3015 POKE65497,0
3020 M=29000
3030 M=M+1
3040 FORI=1TOLEN(NM$)
3050 M=M+1:L$=MID$(NM$,I,1)
3060 POKEM,ASC(L$)
3070 NEXTI
3080 GOSUB3999
3090 M=M+1:POKEM,NH
3100 GOSUB3999
3110 FORJ=0TOHC
3115 IFA$(0,J)=""THEN3180
3117 FORI=0TONH
3118 IFA$(I,J)=""THENA$(I,J)=" "

3120 FORK=1TOLEN(A$(I,J))
3140 M=M+1:L$=MID$(A$(I,J),K,1)
3150 POKEM,ASC(L$)
3160 NEXTK:GOSUB3999
3170 NEXTI:NEXTJ
3180 GOSUB3999:GOSUB3999
3190 SOUND200,3
3210 M=M+1
3215 POKE65496,0
3270 PRINT"PRESS RECORD AND ANY
KEY"
3280 GOSUB4800
3290 CSAVEM NM$,29000,M,17000
3300 SOUND100,2
3310 INPUT"SAVE AGAIN(Y/N)";SA$
3320 IFSA$="N"THEN1
3330 GOTO3290
3999 M=M+1:POKEM,0:RETURN
4000 REM FLICK THROUGH
4010 J=1:DL=500:FL=1
4020 GOSUB4500:FORT=1TODL:NEXTT:
GOSUB4030:GOTO4060
4030 I$=INKEY$
4035 IFI$="P"THENGOSUB4800
4036 IFI$="M"THEN1
4040 IFI$="S"THENFL=1:GOTO4080
4050 IFI$="A"THENFL=-1:GOTO4080
4052 IFI$="H"THENGOSUB4600:GOSUB
4800
4054 IFI$="E"THEN4700
4056 IFI$="D"THEN4900
4058 RETURN
4060 REM
4080 J=J+FL:IFJ>HC THENJ=1
4090 IFJ<1THENJ=HC
4100 GOTO4020
4500 REM SCREEN DISPLAY
4510 CLS0:PRINT@64,NM$;":CARD";J

4520 PRINT
4530 FORI=0TONH
4540 PRINTI;A$(I,0);":";A$(I,J)
4550 NEXTI
4560 PRINT@0,"<a:s>:pAUSE:hARDCO
PY:eDIT:mENU: dELETE:cONTINUE"
4570 RETURN
4600 REM HARDCOPY
4610 PRINT#-2,NM$;":CARD";J
4620 PRINT#-2,""
4630 FORI=0TONH
4640 PRINT#-2,I;A$(I,0);":";A$(I
,J)
4650 NEXTI
4655 PRINT#-2,"------------------
---------------"
4660 RETURN
4700 REM EDIT
4705 PRINT@0,"":PRINT:PRINT
4710 PRINT@0,"":INPUT"WHICH HEAD
ING NUMBER";I
4715 IFI<1THEN4710
4720 PRINTI;A$(I,0);":";
4730 GOSUB1500:A$(I,J)=IK$
4740 GOSUB4500:GOSUB5120:GOTO474
```

no confusion since all options are shown on the screen.) If you find a mistake on one of the cards, you can edit it by pressing E when the card is displayed. In edit mode, you just need to enter the correct information for the desired heading.

The next stage is to save the system and file cards to tape. this is done from the main menu and the file is CSAVED under the system name.

Once this is done, you can load and update the filing system at any time. Searching for a word, phrase or part of a word within the filing system is simple and fast. You can ask the computer to search through all entries for an individual heading or through the entire system. Once the card is found, it is displayed. Pressing C will allow the search to continue for other cards with the same string in them.

If you have to BREAK and SKIPF to find a spot on the tape, then you should re-enter the program with GOTO 1 <ENTER>. If you RUN the program then the files will be cleared. If you forget and RUN instead of GOTO 1, then all is not lost. You *may* be able to retrieve the files using OPTION 8 from the main menu. Note that triple speed pokes are found in Lines 2065, 2165, 3015 and 3215.

Grahame Pollock
Minto NSW

```
0
4800 I$=INKEY$:IFI$=""THEN 4800
4805 SOUND1,1
4810 RETURN
4900 REM DELETE
4905 PRINT@0,"":PRINT:PRINT
4910 PRINT@0,"DO YOU WANT DELETE
 THIS CARD(Y/N)"
4920 GOSUB4800
4930 IFI$="Y"THEN4950
4940 GOSUB4560:GOTO4800
4950 FORMV=J+1TOHC
4960 FORI=0TONH
4970 A$(I,MV-1)=A$(I,MV)
4980 NEXTI:NEXTMV
4985 FORI=0TONH:A$(I,HC)="":NEXT
I
4990 HC=HC-1:GOTO4940
5000 REM SEARCH
5002 CLS:PRINT:PRINTNM$
5004 FORI=0TONH:PRINTI;A$(I,0):N
EXTI
5006 PRINTNH+1;"ENTIRE SYSTEM"
5010 PRINT@0,"WHICH HEADING NUMB
ER";:INPUTI
5015 II=I
5020 INPUT"SEARCH FOR WHAT";SH$
5025 IFI=NH+1 THEN5200
5027 GOSUB5030:GOTO1
5030 FORJ=1TOHC:PRINT@0,J
5035 I=II
5040 IFLEN(SH$)>LEN(A$(I,J))THEN
5080
5050 FORK=1TOLEN(A$(I,J))-LEN(SH
$)+1
5060 IFMID$(A$(I,J),K,LEN(SH$))=
SH$ THENGOSUB5100
5070 NEXTK
5080 NEXTJ
5090 RETURN
5100 GOSUB4500
5120 GOSUB4800:GOSUB4035
5130 RETURN
5200 FORI=1TONH
5210 GOSUB5030
5220 NEXTI
5230 GOTO1
6000 REM NEW CARD
6010 CLS
6020 PRINT@64,NM$:PRINT
6040 PRINT0;A$(0,0);":";
6050 GOSUB1500:NC$=IK$
6060 FORJ=0TOHC:PRINT@0,J+1:PRIN
T@160,;
6065 IFNC$=A$(0,J)THENPRINT"ALRE
ADY IN FILE":GOTO6020
6070 IFNC$<A$(0,J+1)THEN6200
6075 IFA$(0,J)=""THEN6100
6080 NEXTJ
6090 HC=J
6100 A$(0,J)=NC$
6110 FORI=1TONH
6120 PRINTI;A$(I,0);":";
6130 GOSUB1500:A$(I,J)=IK$
6140 NEXTI
6150 GOSUB4500:GOSUB5120
6160 GOTO6150
6200 FORMV=HC TOJ+1 STEP-1
6210 FORI=0TONH
6220 A$(I,MV+1)=A$(I,MV)
6230 NEXTI:NEXTMV
6240 J=J+1:HC=HC+1
6250 GOTO6100
7000 REM SYSTEM PRINT
7010 FORJ=1TOHC
7020 GOSUB4600
7030 NEXTJ
7040 GOTO1
8000 REM RETRIEVE
8010 CLS:CLEAR6500,29000:GOSUB50
0
8020 GOTO2060
```

ADVENTURE WITHOUT A NAME

For the TRS80 — all you'll need to know is given in the program.

A. Sumner
Aberdeen NSW

```
   1 REM **** ADVENTURE WITH NO NAME***
   2 REM *FOR COMMODORE LINE240 MUST READ*
   3 REM * IFB$=" "THENL1=L1-1:A1$=LEFT$(A$,L1):GUTO 250
   4 REM * COMMODRE WILL NEED ANOTHER LINE
   5 REM * 246 GOTO 220
   6 REM ************************
  10 RM=1
  90 SW=0:RP=0:GL=0:BH=0:BN=0:KE=0:BX=0
 100 ON RM GOTO 1000,1020,1050,1280,1080,1100,1130,1160,1180,1200,1230,1250
 200 INPUTA$
 210 L1=0
 220 L1=L1+1:IF L1=LEN(A$) THEN A$=A$+" "
 230 B$=MID$(A$,L1,1)
 240 IFB$=" "THENL1=L1-1:A1$=LEFT$(A$,L1)ELSE 220
 250 A2$=RIGHT$(A$,LEN(A$)-L1-1)
 300 IFA1$="NORTH"THEN2000
 310 IFA1$="SOUTH"THEN2100
 320 IFA1$="EAST"THEN2200
 330 IFA1$="WEST"THEN2300
 340 IFA1$="GET" THEN 2400
 350 IFA1$="TOSS"THEN 2500
 360 IFA1$="LOOK" THEN2600
 370 IFA1$="CLIMB"THEN 2700
 380 IFA1$="GEAR" THEN2800
 390 IFA1$="ROW" THEN2900
 400 IFA1$="OPEN"THEN3000
 410 IFA1$="DROP"THEN3100
 420 PRINT "I DON'T UNDERSTAND.":GOTO100
1000 PRINT "YOU ARE AT THE ENTRANCE OF THE CAVE"
1010 PRINT "CAVE GOES EAST.":GOTO200
1020 PRINT "YOU ARE INSIDE THE CAVE. THERE IS A LIGHT"
1030 PRINT "IN THE WEST. A PASSAGE LEADS SOUTH AND A"
1040 PRINT "DOOR TO THE EAST.":GOTO200
1050 PRINT "YOU ARE IN A DESERTED CAVERN. THERE ARE"
1060 PRINT "BOATS HERE AND PASSAGES HEAD NORTH AND EAST."
```

```
1070 GOTO 200
1080 PRINT "YOU ARE IN A  ROOM. THERE IS A RIVER RUNNING"
1090 PRINT "THROUGH IT AND A PASSAGE TO THE EAST.":GOTO 200
1100 PRINT "YOU ARE IN A ROOM FULL OF BATS. THERE IS A"
1110 PRINT "RIVER FLOWING THROUGH IT, A PASSAGE TO THE SOUTH"
1120 PRINT "AND A LARGE BOX IN THE CORNER.":GOTO200
1130 PRINT "YOU ARE AT THE CROSSROADS, THERE IS A SWORD IN THE"
1140 PRINT "MIDDLE OF THE ROOM. PASSAGES LEAD IN ALL"
1150 PRINT "DIRECTIONS.":GOTO200
1160 PRINT "YOU ARE IN A BOAT STORAGE AREA. THERE ARE"
1170 PRINT "PASSAGES NORTH, EAST AND WEST.":GOTO200
1180 PRINT "YOU ARE IN THE DRAGON'S DEN. PASSAGES"
1190 PRINT "IN ALL DIRECTIONS.":GOTO200
1200 PRINT "YOU ARE IN A STOREROOM. PASSAGES LEAD EAST"
1210 PRINT "AND WEST. THERE IS A CLIFF TO THE SOUTH."
1220 GOTO 200
1230 PRINT "YOU ARE AT THE FACE OF THE CLIFF. A BROKEN"
1240 PRINT "LADDER GOES UP.":GOTO200
1250 PRINT "YOU ARE IN THE THRONE ROOM. A BAG OF GOLD IS"
1260 PRINT "IN THE MIDDLE OF THE ROOM AND A WAY LEADS"
1270 PRINT "SOUTH.":GOTO200
1280 PRINT "YOU ARE IN THE GUARD ROOM. THERE IS A PILE OF"
1290 PRINT "ROPE IN THE CORNER. A DOOR TO THE WEST AND A"
1300 PRINT  "PASSAGE EAST.":GOTO200
1500 PRINT "YOU CANNOT GO THAT WAY.":GOTO100
2000 IF RM = 3 THEN RM=2:GOTO100
2001 IF RM = 8 THEN RM=7:GOTO100
2002 IF RM = 9 THEN RM=10:GOTO100
2003 IF RM = 7 THEN RM=6:GOTO100
2004 GOTO 1500
2100 IF RM = 2 THEN RM=3:GOTO100
2101 IF RM = 6 THEN RM=7:GOTO100
2102 IF RM = 7 THEN RM=8:GOTO100
2103 IF RM = 9 THEN RM=8:GOTO100
2104 IF RM = 12 THEN RM=11:GOTO100
2105 GOTO 1500
2200 IF RM=4THENRM=7:GOTO100
2201 IF RM=7 THEN 2250
2202 IF RM=8 THEN 2250
2203 IF RM = 9 THEN RM=11:GOTO100
2204 IF RM = 10 THEN RM=12:GOTO100
2205 IF RM = 3 THEN RM=5:GOTO100
2206 IF RM = 5 THEN RM=8:GOTO100
2207 IF RM = 1 THEN RM=2:GOTO100
2210 GOTO 1500
2250 IFSW=0THEN PRINT "A DRAGON THROWS YOU OUT!!!!!!":GOTO100
2260 RM=9:PRINT "THE DRAGON RUNS AWAY WHEN IT SEES YOUR SWORD.":GOTO10
2300 IF RM=2THEN RM=1:GOTO100
2310 IF RM=7 THEN RM=4:GOTO100
2320 IF RM=8 THEN RM=5:GOTO100
2330 IF RM=9 THEN RM=6:GOTO100
2340 IF RM=10 THEN RM=9:GOTO100
2350 GOTO 1500
2400 IF A2$="BOAT" AND RM=3 THEN BH=1:GOTO 2480
2405 IF A2$="ROPE" AND RM=4 THEN RP=1:GOTO 2480
2410 IF A2$="BOAT" AND RM=8 THEN BN=1:GOTO 2480
2415 IF A2$="KEY" AND RM=6AND BX=1  THEN KE=1:GOTO 2480
2420 IF A2$="SWORD" AND RM=7 THEN SW=1:GOTO 2480
2425 IF A2$="GOLD" AND RM=12 THEN GL=1:GOTO 2480
2450 PRINT "THERE IS NO "A2$ " HERE.":GOTO100
2480 PRINT "OK....I HAVE IT NOW.":GOTO100
2500 IF A2$<>"ROPE" OR RP=0 THEN PRINT "I CAN'T THROW ANYTHING":GOTO100
2510 IF RM=11 THEN PRINT "THE ROPE CATCHES ON THE TOP OF THE CLIFF.":CL=1:GOTO100
2520 PRINT "YOU THROW THE ROPE BUT LOSE IT.":RP=0:GOTO100
2600 IF A2$="BOX"AND RM = 6 THEN BX=1:PRINT"THERE IS A KEY IN IT.":GOTO100
2610 IF A2$="BOAT"AND RM =3 THEN PRINT "IT HAS HOLES IN IT":GOTO100
2620 PRINT "I SEE NOTHING SPECIAL":GOTO100
2700 IF RM <> 11 THEN PRINT "THERE IS NOTHING TO CLIMB":GOTO100
2710 IF A2$="LADDER" THEN 5000
2720 IF A2$="ROPE" THEN IF CL=1 THEN PRINT "OK...":RM=10:GOTO100 ELSE
     PRINT "I CAN'T CLIMB YET":GOTO100
2730 PRINT "WHAT SHOULD I CLIMB?":GOTO100
2800 PRINT "YOU HAVE"
2805 IF RP=1 THEN PRINT "    ROPE"
2810 IF BH=1 OR BN =1 THEN PRINT "    BOAT"
2815 IF SW=1 THEN PRINT "    SWORD"
2820 IF KE=1 THEN PRINT "    KEY"
2825 IF GL=1 THEN PRINT "    GOLD"
2830 GOTO100
2900 IF RM= 6 THEN PRINT "THE BOAT HAS FLOATED AWAY.":GOTO100
2910 IF RM <> 5 THEN PRINT "DON'T BE SILLY. THERE'S NO WATER HERE.":GOTO100
2920 IF BN=1THEN PRINT "OK... I ROW ALONG THE RIVER":BN=0:RM=6:GOTO100
2930 IF BH =1 THEN PRINT "OK... I ROW ALONG, THE BOAT HAS A HOLE AND SINKS":GOTO5000
2940 PRINT "I HAVE NOTHING TO ROW WITH.":GOTO 100
3000 IF RM <> 4 THEN PRINT "THERE'S NOTHING TO OPEN.":GOTO100
3010 IF KE=0 THEN PRINT "I DON'T HAVE THE KEY.":GOTO100
3020 PRINT "OK... THE DOOR IS OPEN.":RM=2:GOTO100
3100 IF A2$="BOAT" THEN BH=0:BN=0:GOTO100
3110 IF A2$="KEY"THEN KE=0:GOTO 100
3120 IF A2$="SWORD" THEN SW=0:GOTO100
3130 IF A2$="ROPE" THEN RP=0:GOTO 100
```

```
 3140 IF A2$="GOLD"THEN GL=0:GOTO100
 3150 PRINT " WHAT SHOULD I DROP?":GOTO100
 5000 PRINT "TOO BAD":PRINT:PKINT
 5010 PRINT "YOU HAVE DIED !!!!"
>RUN
YOU ARE AT THE ENTRANCE OF THE CAVE
CAVE GOES EAST.
?EAST
YOU ARE INSIDE THE CAVE. THERE IS A LIGHT
IN THE WEST. A PASSAGE LEADS SOUTH AND A
DOOR TO THE EAST.
?SOUTH
YOU ARE IN A DESERTED CAVERN. THERE ARE
BOATS HERE AND PASSAGES HEAD NORTH AND EAST.
?GET BOAT
OK....I HAVE IT NOW.
YOU ARE IN A DESERTED CAVERN. THERE ARE
BOATS HERE AND PASSAGES HEAD NURTH AND EAST.
?ROW BOAT
DON'T BE SILLY. THERE'S NO WATER HERE.
YOU ARE IN A DESERTED CAVERN. THERE ARE
BOATS HERE AND PASSAGES HEAD NURTH AND EAST.
```

MATHS TEST MATCH

Maths Test Match is a maths drill program made into a game of cricket. To make some runs you have to know the right answers, and speed does help up to ten can play at once.

And here's a tip for the CoCo users: you can use "Exec 44539" in place of "A$ = Inkey$: if A$=" "Then". As you can see it is a much shorter line, this helps to save on memory.

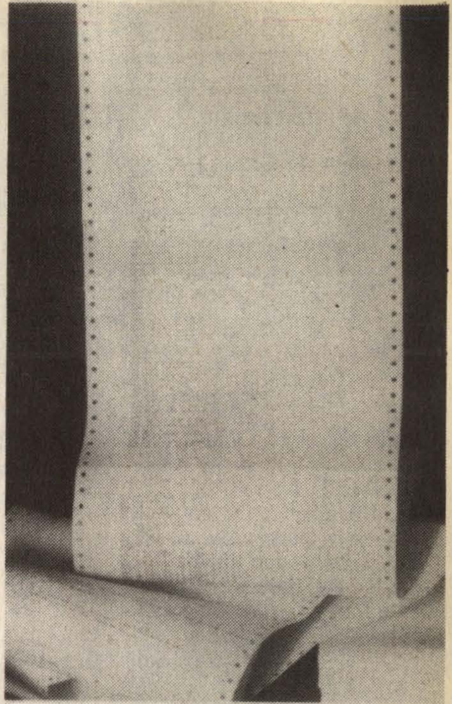
J. Sheen
Morwell Vic.

```
10 FOR T=1 TO 10
20 CLS:PRINT@66,"SAVEING MATHS T
EST MATCH #";T
30 SAVE"M T M",A
40 PLAY"AABBCD":PRINT:PRINT"SAVE
 #";T;"COMPLETED":FORD=1 TO 800:
NEXTD,T
50 CLS0:CLEAR500
60 DIM CA$(12)
70 'print first screen
80 PRINT@96,"welcome to the game
 of your life";
90 PRINT@193,"you will need skil
l and speed";
100 PRINT@300,"to win at";
110 ' data for the word maths
120 DATA 90,78,92,77,89,92,92,77
,88,78,92,92,88,88,90,88,88,92,8
6,92,92,92,81,92,77,88,88,88,78
130 DATA 86,80,79,84,81,92,77,84
,92,80,78,92,92,92,86,92,92,92,8
6,92,92,92,81,92,92,85,78,92,92
140 DATA 86,92,92,92,81,92,82,88
,88,88,85,92,92,92,86,92,92,92,9
0,88,88,88,89,92,92,92,80,85,92
150 DATA 86,92,92,92,81,92,86,92
,92,92,81,92,92,92,86,92,92,92,8
6,92,92,92,81,92,80,79,79,79,84
160 'data for the word test
170 DATA 92,92,92,88,88,90,88,88
,92,90,88,88,88,88,92,77,88,88,8
8,78,92,88,88,90,88,88,92,92,92
180 DATA 92,92,92,92,92,86,92,92
,92,86,92,92,92,92,92,92,85,78,9
2,92,92,92,92,86,92,92,92,92,92
190 DATA 92,92,92,92,92,86,92,92
,92,90,88,88,84,92,92,92,92,80,8
5,92,92,92,92,86,92,92,92,92,92
200 DATA 92,92,92,92,92,86,92,92
,92,87,79,79,79,79,92,80,79,79,7
9,84,92,92,92,86,92,92,92,92,92
210 '  data for the word match
220 DATA 90,78,92,77,89,92,92,77
,88,78,92,92,88,88,90,88,88,92,7
7,88,88,88,78,92,86,92,92,92,81
230 DATA 86,80,79,84,81,92,77,84
,92,80,78,92,92,92,86,92,92,92,8
6,92,92,92,80,92,86,92,92,92,81
240 DATA 86,92,92,92,81,92,82,88
,88,88,85,92,92,92,86,92,92,92,8
6,92,92,92,77,92,90,88,88,88,89
```

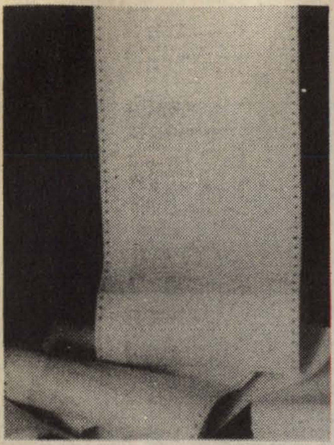
```
250 DATA 86,92,92,92,81,92,86,92
,92,92,81,92,92,92,86,92,92,92,8
0,79,79,79,84,92,86,92,92,92,81
260 POKE65495,0
270 FOR I=1 TO 12
280 FOR D=1 TO 29
290 READ DA:CA$(I)=CA$(I)+CHR$(D
A+100)
300 NEXT
310 NEXT I
320 'print the second screen
330 CLS0:PRINT@33,CA$(1);
340 PRINT@65,CA$(2);
350 PRINT@97,CA$(3);
360 PRINT@129,CA$(4);
370 PRINT@193,CA$(5);
380 PRINT@225,CA$(6);
390 PRINT@257,CA$(7);
400 PRINT@289,CA$(8);
410 PRINT@323,"copyright jeff sh
een 1985";
420 PRINT@353,CA$(9);:PRINT@385,
CA$(10);
430 PRINT@417,CA$(11);:PRINT@449
,CA$(12);
440 POKE65494,0
450 FOR T=1 TO 3000:NEXT
460 'print third screen
470 CLS5
480 PRINT@32,"   YOU ARE THE BAT
SMAN IN THIS   GAME OF CRICKET.
THE COMPUTER   WILL BOWL SUMS (B
ALLS) AT YOU.  AS YOU THINK ABOU
T THE ANSWER   YOU CAN SEE YOUR
RUNS RUNNING   AWAY FROM YOU. TH
E SUMS WILL    COME AT 3 DIFFERE
NT SPEEDS,     FAST, ";
490 PRINT"MEDIUM  AND SLOW.
    THE IDEA IS TO ANSWER AS FAS
T   AS YOU CAN, BUT GET ONE WRON
G   AND YOU COULD BE OUT."
500 PRINT" FROM 1 TO 10 PLAYERS
CAN PLAY   AT ANY TIME....."
510 GOSUB 1200
520 'get skill level
530 CLS5
540 PRINT@96,"    ENTER SKILL LE
VEL
                  1   EASIEST
                  9   HARDEST."
```

```
550 PRINT@384,"        ";:INPUT"LEV
EL ";SL
560 HC=(SL*2):CH=(SL*10)
570 DIM B(12)
580 '    maths test match
         by jeff sheen 3/10/85
590 O$(1)="L B W":O$(2)="BOWLED"
:O$(3)="CAUGHT":O$(4)="STUMPED"
600 'enter names of players
610 CLS6
620 PRINT@38,"MATHS TEST MATCH."
;
630 FOR P=1 TO 10
640 PRINT@66+(32*P),"";:INPUT" E
NTER PLAYER'S NAMES.";P$(P)
650 NEXT
660 B=1
670 'main screen showing team
     players there runs
680 CLS
690 PRINT@34,"THE BATTING TEAM I
S.";
700 B$="".
710 FOR T=1 TO 10
720 IF BA=0 THEN 740
730 BA(B)=(B(B)/BA)*10
740 PRINT@65+(32*T),USING"%
 %   %          %  ###   ##.#";P$(T)
;H$(T);B(T);BA(T)
750 NEXT T
760 PRINT@417,USING"TEAM TOTAL R
UNS        ####";B(11)
770 PRINT@468,P$(B);" IS BATTING
 NOW";
780 IF INKEY$=""THEN 780
790 '
800 '
810 CLS5
820 PRINT@12,"BATSMAN IS ";P$(B)
;
830 BA=BA+1
840 'set pace and pick sum
850 S=RND(4):IF S=3 THEN PRINT@3
3,"SLOW";
860 IF S=4 THEN S=2
870 IF S=2 THEN PRINT@33,"MEDIUM
";
880 IF S=1 THEN PRINT@33,"FAST";

890 SU=RND(4):X=RND(HC):Y=RND(HC
)
900 ON SU GOTO 920,940,980,990
910 'print sum and get answer
920 X=X+RND(CH):Y=Y+RND(CH):PRIN
T@80,"";X"+"Y"=";:AN=X+Y
930 GOTO 1010
940 X=X+RND(CH):Y=Y+RND(CH)
950 IF X>Y THEN PRINT@80,X"-"Y"=
";:AN=X-Y
960 IF Y=>X THEN PRINT@80,Y"-"X"
=";:AN=Y-X
970 GOTO 1010
980 XX=X*Y:AN=X:PRINT@80,XX"/"Y"
=";:GOTO 1010
990 PRINT@80,X"*"Y"=";:AN=X*Y:GO
TO 1010
1000 '
1010 A=0:FOR R=6 TO 1 STEP-1
1020 PRINT@96+A,R;"RUN'S";
1030 FOR TI=1 TO (70*S)+100
1040 A$=INKEY$:IF A$<>""THEN 112
0
1050 NEXT TI
1060 A=A+68:NEXT R
```



```
1070 PRINT@456,"SORRY ANSWER IS"
;AN;"";
1080 O=RND(5)
1090 IF O=5 THEN PRINT@484,"NO R
UNS,";:FORV=1 TO 900:NEXT V:GOTO
 680
1100 IF O<>5 THEN PRINT@484,"OUT
 ";O$(O);:H$(B)=O$(O):B=B+1:BA=0
:FORV=1 TO 900:NEXTV:GOTO 680
1110 '
1120 'LOOK FOR ANSWER
1130 B$=B$+A$:A$=""
1140 IF AN>9 AND LEN(B$)<2 THEN
1040
1150 IF AN>99 AND LEN(B$)<3 THEN
 1040
1160 IF AN>999 AND LEN(B$)<4 THE
N 1040
1170 IF VAL(B$)=AN THEN B(B)=B(B
)+R:B(11)=B(11)+R:GOTO 680
1180 IF VAL(B$)<>AN THEN 1070
1190 'END
1200 'wait for any key pressed
1210 PRINT@448,STRING$(16-N,204)
;STRING$(2*N,207);STRING$(16-N,2
04);
1220 I$=INKEY$
1230 IF I$<>""THEN 1260
1240 N=N+INC:IF N=16 THEN INC=-1
 ELSE IF N=0 THEN INC=+1
1250 GOTO 1210
1260 RETURN
```



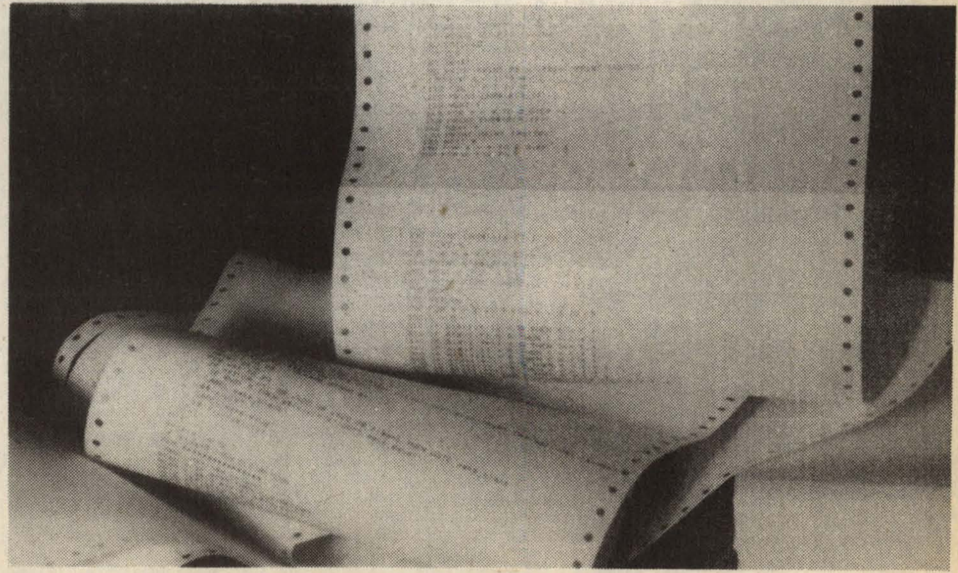
BANDIT

Bandit is a computer simulation of the one-arm bandits found in most clubs — and it's just as hard to beat. The main difference being that you get to keep your shirt.

A. Ferraro
St Marys NSW

```
10 '-----------------------------------------------------
20 '              ***** B A N D I T *****
30 '
40 '      COPYRIGHT (C) MARCH 1986 BY A. FERRARO
50 '
100 '-----------------------------------------------------
110 CLS
120 PRINT @ 149, "B A N D I T"
130 PRINT @ 202, STRING$(35,"=")
140 PRINT @ 331, "COPYRIGHT (C) 1985 BY A. FERRARO"
150 PRINT @ 462, "SYDNEY,    NEW SOUTH WALES"
160 PRINT @ 597, "AUSTRALIA"
170 PRINT @ 714, STRING$(35,"=")
180 FOR Z = 1 TO 3500: NEXT Z
190 GOSUB 4000: CLS
200 FOR Z1 = 10 TO 85
210 IF Z1 < 25 THEN 230
220 SET(Z1,10): SET(Z1,16): SET(Z1,22): SET(Z1,28): SET(Z1,34)
230 IF Z1 > 34 THEN 250
240 SET(25,Z1): SET(85,Z1): IF Z1 < 29 THEN SET(65,Z1): SET(45,Z1)
250 NEXT Z1
270 PRINT @ 428, "<==";
280 PRINT @ 393, "==>";
300 DATA CHERRY, CHERRY, CHERRY, APPLE , APPLE , APPLE
310 DATA LEMON , LEMON , LEMON , =BAR= , =BAR= , =BAR=
320 DATA PLUM  , PLUM  , PLUM  , ORANGE, ORANGE, ORANGE
330 DATA CHERRY, CHERRY, LEMON , LEMON , LEMON , PLUM
340 DATA ORANGE, ORANGE, =BAR= , APPLE , APPLE , APPLE
350 FOR Z2 = 1 TO 10
360     READ B1$(Z2), B2$(Z2), B3$(Z2)
370 NEXT Z2
500 RANDOM
510 I = RND(10)
520 J = RND(10)
530 K = RND(10)
540 I1 = I
550 I2 = I1 + 1: IF I1 = 10 THEN I2 = 1
560 I3 = I2 + 1: IF I2 = 10 THEN I3 = 1
570 J1 = J
580 J2 = J1 + 1: IF J1 = 10 THEN J2 = 1
590 J3 = J2 + 1: IF J2 = 10 THEN J3 = 1
600 K1 = K
610 K2 = K1 + 1: IF K1 = 10 THEN K2 = 1
620 K3 = K2 + 1: IF K2 = 10 THEN K3 = 1
630 PRINT @ 271, B1$(I1);
640 PRINT @ 281, B1$(J1);
650 PRINT @ 291, B1$(K1);
660 PRINT @ 399, B2$(I2);: A$ = B2$(I2)
670 PRINT @ 409, B2$(J2);: B$ = B2$(J2)
680 PRINT @ 419, B2$(K2);: C$ = B2$(K2)
690 PRINT @ 527, B3$(I3);
700 PRINT @ 537, B3$(J3);
710 PRINT @ 547, B3$(K3);
720 IF B$ <> C$ THEN 800
730 IF A$ = "=BAR= " AND B$ = A$ GOSUB 2000: GOTO 1000
740 IF A$ = "PLUM  " AND B$ = A$ GOSUB 2200: GOTO 1000
750 IF A$ = "ORANGE" AND B$ = A$ GOSUB 2400: GOTO 1000
760 IF A$ = "APPLE " AND B$ = A$ GOSUB 2400: GOTO 1000
770 IF A$ = "LEMON " AND B$ = A$ GOSUB 2400: GOTO 1000
780 IF A$ = "CHERRY" AND B$ = A$ GOSUB 2400: GOTO 1000
800 IF A$ = "=BAR= " AND B$ = A$ GOSUB 2500: GOTO 1000
810 IF A$ = "CHERRY" AND B$ = A$ GOSUB 2500: GOTO 1000
820 IF A$ = "CHERRY" GOSUB 2600: GOTO 1000
830 L = 1
1000 CT = CT + W - L: PRINT @ 83, "STATUS = ";CT;"COINS";
1010 PRINT @ 661, "HIT  SPACEBAR";
1020 KY$ = INKEY$
1030 FOR Z4 = 140 TO 170
1050     POKE 15360 + Z4, 140
1070     POKE 15360 + Z4, 128
1080 NEXT Z4
1090 FOR Z4 = 170 TO 140 STEP -1
```

```
1110     POKE 15360 + Z4, 140
1130     POKE 15360 + Z4, 128
1140 NEXT Z4
1150 IF KY$ = "" THEN 1020
1160 IF KY$ <> " " THEN 1020
1170 PRINT @ 661,"               ";
1180 L = 0: W = 0
1190 GOTO 500
2000 PRINT @ 661, "J A C K P O T";
2010 W = 100
2020 GOSUB 3800
2030 GOSUB 3900
2040 RETURN
2200 W = 25
2210 GOSUB 3900
2220 RETURN
2400 W = 10
2410 GOSUB 3900
2420 RETURN
2500 W = 5
2510 GOSUB 3900
2520 RETURN
2600 W = 2
2610 GOSUB 3900
2620 RETURN
3800 FOR Z9 = 1 TO 1500: NEXT Z9
3810 RETURN
3900 PRINT @ 658,"PAYMENT =";W;"COINS";
3910 GOSUB 3800
3920 PRINT @ 658,"                        ";
3930 RETURN
4000 CLS
4010 PRINT @ 82, "INFORMATION SHEET"
4020 PRINT @ 146, STRING$(17,"=")
4040 PRINT "PAYMENTS ARE MADE ON CENTRE ROW, LEFT TO RIGHT ONLY."
4050 PRINT
4060 PRINT "=BAR=   =BAR=   =BAR=   ...................100 COINS"
4070 PRINT "PLUM    PLUM    PLUM    ....................25 COINS"
4080 PRINT "ORANGE  ORANGE  ORANGE  ....................10 COINS"
4090 PRINT "APPLE   APPLE   APPLE   ....................10 COINS"
4100 PRINT "LEMON   LEMON   LEMON   ....................10 COINS"
4110 PRINT "CHERRY  CHERRY  CHERRY  ....................10 COINS"
4120 PRINT "=BAR=   =BAR=   .............................5 COINS"
4130 PRINT "CHERRY  CHERRY  .............................5 COINS"
4140 PRINT "CHERRY  .....................................2 COINS"
4150 PRINT @ 971, "<HIT ANY KEY TO CONTINUE>";
4160 ZZ$ = INKEY$: IF ZZ$ = "" THEN 4160
4170 RETURN
```



VIC 20

BURNING RUBBER

For the unexpanded Vic 20 — all the instructions you'll need are in the listing.

J. Fang
Forest Hill Vic.

```
1 REM (C) ERIC YOUNG,
2 REM FOR UNEXPANDED VIC-20
3 REM (C) LEO WANKERSOFT MCMLXXXV
5 PRINTCHR$(8):GOSUB8000:POKE36879,8
10 PRINT"■■■■■■BURNIN' RUBBER"
20 PRINT"■■■■BY ERIC J. YOUNG"
30 PRINT"■■(C) LEO WANKERSOFT"
80 PRINT"■■■■PLEASE LOAD MAIN GAME"
90 PRINT"■■BY PRESSING PLAY ON   THE CASSETTE UNIT■"
100 POKE198,1:POKE631,131:END
8000 POKE52,28:POKE56,28:PRINT"■SETTING UP GRAPHICS":PRINT"■PLEASE WAIT"
8020 FORI=7168TO7679:POKEI,PEEK(I+25600):NEXT:I=7168
8030 READA:IFA=-1THENRETURN
8040 POKEI,A:I=I+1:GOTO8030
8050 DATA255,0,255,0,255,0,255,0
8055 DATA170,170,170,170,170,170,170,170
8060 DATA1,3,7,15,31,63,127,255
8065 DATA128,192,224,240,248,252,254,255
8070 DATA198,254,214,16,16,84,124,84
8075 DATA84,124,84,16,16,214,254,198
8080 DATA7,231,66,254,66,231,7,0
8085 DATA224,231,66,127,66,231,224,0
8090 DATA14,14,110,40,240,32,80,80
8095 DATA0,0,56,124,238,198,198,254
8100 DATA204,204,51,51,204,204,51,51
8105 DATA56,92,108,124,56,16,16,56
8110 DATA255,255,40,74,74,74,34,255,255,255,192,210,208,211,3,255
8115 DATA255,136,186,186,186,136,255,255,255,168,171,152,171,168,255,255
8120 DATA255,136,187,136,190,190,136,255,255,136,186,138,234,234,136,255
8125 DATA7,8,16,34,80,128,255,255,255,3,151,15,31,63,255,255
8130 DATA0,0,0,0,102,102,136,136
8140 DATA-1

READY.

4 GOSUB8000:POKE36879,255
10 PRINT"■■NEED INSTRUCTIONS?"
20 GETZ$:IFZ$=""THEN 20
30 IFZ$="N"THEN50
40 GOSUB4000
50 PRINT"■":CLR
60 X=0:B=6:H=7725:Z=74:V=36878:S3=36876:S4=36877:POKE36869,255
100 PRINT"■":PRINT"■■■■■■■■■■■■■■■■■■■■"
110 PRINT"■HOW FAST (1-9)?■"
111 GETA$:A=VAL(A$):IFA=0THEN111
112 PRINT"■"
114 GOSUB1030:PRINT"■■■■■■";:A1=TI
115 GOSUB5100
120 POKE36875,150:GETZ$:IFZ$=""THEN125
121 Z=ASC(Z$)
125 X=1
130 IFZ=74THENB=6:GOTO140
135 GOTO190
140 H=H+1
145 Y=Y+1
150 IFPEEK(H)=32THENX=0
155 Y=Y+1
160 PRINT"■■ ■G■";
165 Y=Y+1
170 IF X=1THEN3000
175 Y=Y+1
180 GOTO115
190 IFZ=78THENB=2:GOTO200
195 GOTO250
200 H=H+22
210 IFPEEK(H)=32THENX=0
220 PRINT"■■ ■■■D■";
230 IFX=1THEN3000
240 GOTO115
250 IFZ=72THENB=4:GOTO260
255 GOTO 310
260 H=H-1
270 IFPEEK(H)=32THENX=0
280 PRINT"■■ ■■■F■";
290 IFX=1THEN3000
300 GOTO115
310 IFZ=85THENB=8:GOTO320
315 GOTO370
320 H=H-22
330 IFPEEK(H)=32THENX=0
340 PRINT"■■ ■■■E■";
350 IFX=1THEN3000
360 GOTO115
370 GOTO5000
1030 PRINT"■B@@@@@@@@@@@@@@@@@@@@C";
```

```
1040 PRINT"          IIII■TT■K       ■A";
1050 PRINT"■H■■START■■    III■NO■K       ■ A";
1060 PRINT"■A                      ■K  ■A";
1070 PRINT"A ■ K                   K  ■A";
1080 PRINT"A       ■K  ■III  IIIII  A";
1090 PRINT"A          III  I       A";
1100 PRINT"A  ■KKKKKK■TT■K  ■I      A";
1110 PRINT"A         ■K■PQ■K  ■I   IIIA";
1120 PRINT"A                ■K      ■A";
1130 PRINT"A■KK              K      ■A";
1140 PRINT"A■KK    ■IIII■KKK K■TTII  A";
1150 PRINT"AII        II■KK  ■LMII  A";
1160 PRINT"A                       A";
1170 PRINT"AITT T ■TT■TT ■T T T ■   ■A";
1180 PRINT"AILMRSI■NO■PQ■RSRSRS■KK  ■A";
1190 PRINT"A■H■J■     K           K  ■A";
1200 PRINT"A■H■J■     K     K     K  ■A";
1210 PRINT"AHJ■          K          ■A";
1220 PRINT"■■■@@@@@@@@@@@@@@@@@@@@@■■■"
1230 RETURN
3000 PRINT:IFPEEK(H-1)<>8THENGOSUB5200
3010 PRINT"■■■■■■■■■■■■■■■■■■■■■■■";
3020 PRINT"■SECONDS=";INT((TI-A1)/.6)/100
3025 POKE198,0
3030 PRINT"■WANT TO TRY AGAIN?";
3040 GET Z$:IFZ$<>"Y"ANDZ$<>"N"THEN3040
3050 IF Z$="Y" THEN 50
3060 SYS10
4000 PRINT"■":POKE36869,240
4010 PRINT"THE OBJECT OF THE GAMEIS RACE AROUND THE"
4020 PRINT"TRACK AND CROSS THE   FINISH LINE."
4040 PRINT"YOU WILL HAVE TO PICK A SKILL LEVEL THE"
4050 PRINT"HIGHER,THE FASTER"
4070 PRINT"■TO MOVE USE:-"
4110 PRINT"■■U■ UP     ■N■ DOWN"
4120 PRINT"■H■ LEFT   ■U■ RIGHT"
4130 PRINT:PRINT"ARE YOU READY?"
4140 GETZ$:IFZ$=""THEN4140
4150 IFZ$="Y"THENRETURN
4160 GOTO4140
5000 PRINT"■":PRINT:PRINT
5010 POKE36869,240:PRINT"YOU BOMBED OUT BOOB!":PRINT
5020 PRINT"YOU HIT THE WRONG KEY."
5030 GOTO3025
5100 POKEV,5:POKES3,195:FORK=1TOINT(350-(A*37)):NEXT:POKES3,0:POKEV,0:RETURN
5200 POKES4,220:FORK=15TO0STEP-1:POKEV,K:FORM=1TO100:NEXTM
5201 NEXTK:POKES4,0:POKEV,0:RETURN
8000 IFPEEK(7168)<>255THENPRINT"ERROR IN GRAPHICS      RELOAD FIRST PROGRAM":END
8010 RETURN
```

CHOPPER ATTACK

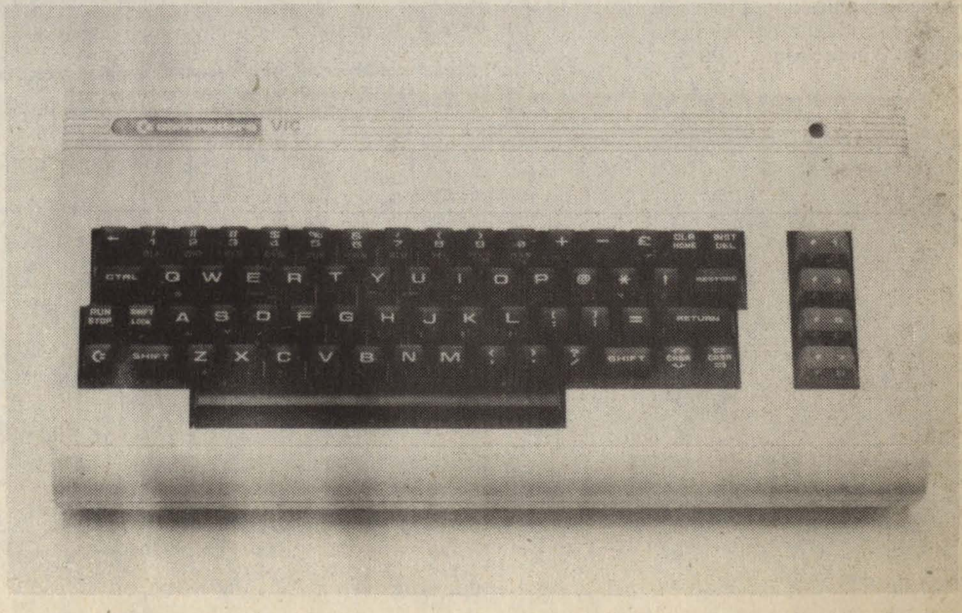
An arcade-style game with user defined graphics and a touch of scramble and blitz. For the unexpanded Commodore Vic 20.

J. Fang
Forest Hill Vic.

```
1 REM (C) ERIC YOUNG,62 HUSBAND RD.,FOREST HILL,VICTORIA 3131
10 X=RND(0)
50 GOSUB800
100 PRINT"■":POKE36879,13:POKE650,129:CO=30720
110 P=1:GL=0:TI$="000000":FORI=1TO3:EP=7701+INT(RND(1)*20)*22:GP=7701+INT(RND(1)
*20)*22
120 FORI=8076TO8185:POKEI+CO,5:POKEI,230:NEXT:EV=INT(RND(1)*2)+1:GV=INT(RND(1)*2
)+1
130 PRINT"■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ ■■■  ■■■■GH■■■■EF"
140 YP=7702:TI$="000000":M1=0:M2=0:BL=0
150 FORI=8010TO8053:POKEI+CO,3:POKEI,230:NEXT:POKE7996+CO,3:POKE7996,232:POKE799
7+CO,3

160 POKE7997,230:POKE7998+CO,3:POKE7998,230:POKE7999+CO,3:POKE7999,232
170 BD=INT(RND(1)*3)-1:IFBD=0THEN160
180 PRINT"■■■TIME:"RIGHT$(TI$,3);" SCORE";SC
190 IFBL=0THEN250
200 POKEBL,32
210 IFBL<7724THENBL=0:GOTO250
220 IFRND(1)<.7THENBD=INT(RND(1)*3-1):BL=BL-22+BD
230 POKEBL+CO,3:POKEBL,4
240 IFBL=YPTHEN570
250 IFM1=0ANDRND(1)<.25THENM1=8146
260 IFM2=0ANDRND(1)<.25THENM2=8157
270 IFBL=0ANDRND(1)<.25THENBL=7966+INT(RND(1)*22)
280 GETA$:POKEYP,32:YP=YP+1
290 IFA$="S"ANDB=0THENB=YP
300 IFA$<>"W"ANDA$<>"X"ANDA$<>"A"ANDA$<>"D"THEN360
310 CP=YP
320 YP=YP+((A$="W")*22)-((A$="X")*22)
330 YP=YP+(A$="A")-(A$="D")
340 IFYP<7702THENYP=CP
350 IFYP>8185THENYP=7680
360 IFPEEK(YP)<>32ANDPEEK(YP)<>2THEN570
370 POKEYP+CO,7:POKEYP,1
380 IFM1=0THEN410
```

```
390 POKEM1,32:M1=M1-22:IFM1<7702THENM1=0:GOTO410
400 POKEM1+CO,4:POKEM1,3
410 IFM2=0THEN440
420 POKEM2,32:M2=M2-22:IFM2<7702THENM2=0:GOTO440
430 POKEM2+CO,4:POKEM2,3
440 IFB<>0THENGOSUB470
450 IFYP=M1ORYP=M2THEN570
460 FORI=1TO55:NEXT:GOTO180
470 POKEB,32
480 POKE36874,(250-B/50)*2:POKE36878,10
490 B=B+23:IFB<8185ANDPEEK(B)=32THEN560
500 IFPEEK(B)=5ORPEEK(B)=6ORPEEK(B)=7ORPEEK(B)=8ORPEEK(B)=160THEN680
510 POKE36877,5:POKE36877,130:FORI=1TO60:NEXT
520 POKEB,32:IFB=M1THENM1=0:SC=SC+10
530 IFB=M2THENM2=0:SC=SC+5
540 IFB=BLTHENBL=0:SC=SC+45
550 SC=SC+5:B=0:POKE36875,0:POKE36877,200:FORI=1TO75:NEXT:POKE36877,0:POKE36876,
0
560 POKEB+CO,3:POKEB,2:RETURN
570 TT$=TI$:POKE36877,150:POKE36878,15
575 FORI=1TO75:POKE36865,INT(RND(1)*20)+28
580 POKE36864,INT(RND(1)*8)+8:POKE36879,42:POKE36879,8:NEXTI
585 POKE36864,12:POKE36865,38
590 PRINT"⊐▮TISK.TISK."
600 PRINT"▮▮YOU WERE BLOWN OUT OF THE SKY AFTER ";RIGHT$(TT$,3):PRINT"SECONDS."
605 PRINT"▮◣YOU SCORED";SC;"POINTS."
610 PRINT"▮▮BAD LUCK."
620 PRINT:PRINT"◣TRY AGAIN? (Y/N)":POKE650,0:POKE36869,240
630 POKE36878,0:POKE36876,0:POKE36877,0
640 GETA$:IFA$<>"Y"ANDA$<>"N"THEN640
650 IFA$="N"THENSYS10
660 PRINT:PRINT"  ▮ GET READY CAPTAIN   "
670 FORI=1TO3000:NEXT:RUN
680 TT$=TI$:POKE36877,150:SC=SC+1000:FORI=1TO75:POKE36865,INT(RND(1)*20)+28
685 POKE36864,INT(RND(1)*8)+8:POKE36879,42:POKE36879,8:NEXTI
690 POKE36864,12:POKE36865,38
700 PRINT"⊐▮CONGTUALATIONS CAPTAIN":PRINT"▮◣YOU HAVE DESTROYED THEENEMY BASE."
710 PRINT"▮▮IT TOOK "RIGHT$(TT$,3);" SECONDS."
715.PRINT"▮▮YOU SCORED";SC;"POINTS"
720 PRINT"▮▮WELL DONE!"
730 GOTO620
800 PRINT"⊐▮▮CHOPPER ATTACK":PRINT"▮▮USE WADX & S":PRINT"▮▮(C) LEO WANKERSOFT"
801 PRINT"▮▮AUSTRALIA":PRINT"▮▮7-11-1984"
805 POKE56,28:POKE52,28:POKE36869,255:IFPEEK(7168)=0THENRETURN
810 FORI=7168TO7679:POKEI,PEEK(I+25600):NEXT:I=7168
820 READA:IFA=-1THENRETURN
830 POKEI,A:I=I+1:GOTO820
840 DATA0,0,0,0,0,0,0,0
850 DATA0,127,8,254,29,15,4,15
860 DATA0,16,16,124,28,28,0,0
870 DATA16,16,16,56,40,40,124,238
880 DATA32,68,58,40,184,68,8,0
890 DATA255,252,250,250,250,249,252,255
900 DATA255,63,95,95,95,159,63,255
910 DATA31,32,72,145,161,165,141,159
920 DATA248,4,130,145,149,181,191,255,-1
```



REVENGE OF THE TOOTHLESS VAMPIRE

You must help poor old Cedric, The Toothless Vampire collect his false teeth and get out of Wierdsville. But he must make the irate dentist happy, who has lost his favourite reading material and an agitated priest who has lost his Bible. Cedric may also find some useful items in the Cafe, but the bouncer won't let him in.

Commands are entered using the standard verb and noun entries system. Some useful commands are (N,S,E,W), Climb/Up, Down, In, Get/Take, Score, Praise, Inventory, Spray, Help, Give/Drop/Leave, Wait, Pull, Wear, Remove, Hit/Smash and Unlock.

Converted from the BBC original by Jimmy Fang.

J. Fang
Forest Hill Vic.

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1 REM* REVENGE OF THE TOOTHLESS VAMPIRE *
2 REM (C) JIMMY FANG 1986
3 REM CONVERTED FROM THE BBC ORIGINAL BY STEVE (C) 1985
4 REM (C) LEO WANKERSOFT,62 HUSBAND RD.,FOREST HILL,VICTORIA 3131,AUSTRALIA
5 REM FOR VIC-20 WITH 8K OR MORE RAM
10 POKE36879,8:PRINTCHR$(14)
50 DIMQ$(45),S%(45,4),G$(20),B%(20),N$(20),N%(20),V$(5):P%=2
60 FORX=1TO44
63 READP$:IFP$<>"*"THENQ$(X)=Q$(X)+P$:GOTO63
65 FORY=1TO4:READS%(X,Y):NEXTY,X
70 FORX=1TO20:READG$(X),B%(X),N$(X):N%(X)=X:NEXTX
80 PRINT"□";
90 IFP%=45THEN500
100 PRINT"■≡⸜ AM:-":PRINT"◣"Q$(P%):
105 PRINT"■≡⸜ CAN GO:-◣"
110 IFS%(P%,1)<>.THENPRINT"⁄ORTH,";
120 IFS%(P%,2)<>.THENPRINT"♥OUTH,":
130 IFS%(P%,3)<>.THENPRINT"‾AST,";
140 IFS%(P%,4)<>.THENPRINT"○EST,";
180 IFP%=7THENPRINT"‾OWN.";
190 PRINT"■."
200 E=.:FORT=1TO20:PP%=.:IFB%(T)=P%THENPP%=1
210 IFPP%=1THEN230
220 NEXTT:GOTO250
230 IFE=.THENPRINT"■≡⸜ CAN SEE:-■"
240 PRINTG$(T):E=E+1:GOTO220
250 PRINT"■■○HAT SHALL ⸜ DO NOW..":INPUT"◣=>≡";Z$
260 PRINT"□":B$=LEFT$(Z$,2):C$=LEFT$(Z$,3):D$=LEFT$(Z$,4)
270 IFB$="N"ANDS%(P%,1)>.THENP%=S%(P%,1):GOTO90
280 IFB$="S"ANDS%(P%,2)>.THENP%=S%(P%,2):GOTO90
290 IFB$="E"ANDS%(P%,3)>.THENP%=S%(P%,3):GOTO90
300 IFB$="W"ANDS%(P%,4)>.THENP%=S%(P%,4):GOTO90
310 IFB$="N"ORB$="S"ORB$="E"ORB$="W"THENPRINT"■■⸜ CAN'T GO THAT WAY.":GOTO90
320 IFC$="CLI"ORB$="UP"THENGOSUB670
330 IFC$="DOW"THENGOSUB710
340 IFC$="IN"THENGOSUB800
350 IFC$="GET"ORC$="TAK"THENGOSUB830
360 IFC$="SCO"THENPRINT"■■IHIS ISN'T A GAME!"
370 IFC$="PRA"THENPRINT"■■IHAT MADE ME FEEL GOOD"
380 IFC$="INV"THENGOSUB1080
390 IFC$="SPR"THENGOSUB1520
400 IFC$="HEL"THENPRINT"■■⸜ HAVEN7T A CLUE!"
410 IFC$="GIV"ORC$="DRO"ORC$="LEA"THENGOSUB1120
420 IFC$="WAI"THENGOSUB1280
430 IFC$="PUL"THENGOSUB1330
440 IFC$="WEA"THENGOSUB1360
450 IFC$="REM"ANDAI=1THENPRINT"■■⸜ CAN'T GET THEM OFF  MY HANDS.":GOTO90
460 IFC$="REM"THENPRINT"■■‾ON'T BE ABSURD."
470 IFC$="HIT"ORC$="SMA"THENGOSUB1410
480 IFC$="UNL"THENGOSUB1470
490 IFP%<>45THEN90
500 IFAD<1THENPRINT"■■⸜ JUST REMEMBERED. ⸜  FORGOT MY TEETH. ⸜ RUNBACK!":P%=2:GO
TO90
510 PRINT"■■■■○ELL DONE. IOU HAVE    HELPED POOR OLD ‾EDRICTO SOLVE THIS VENTURE.
"
520 END
530 DATA"⸜N A DENTISTS SURGERY.■IHERE'S A LARGE CHAIR IN THE MIDDLE.",*,,,2,.
531 DATA"⸜N A DINGY WAITING    ROOM.  ■♠ PILE OF OLD  MAGAZINES IS PILED ON "
533 DATA"A CHAIR IN THE CORNER.□",*,,9,3,1
535 DATA"♠ SMALL CORRIDOR.",*,,,,2
540 DATA"⸜N A DISUSED SURGERY. ■♠ TATTY DENTSIST CHAIRSTANDS IN ONE CORNER.",*,,
,5,3
541 DATA"⸜N A NARROW PASSAGE.",*,,6,,4
543 DATA"♠T THE BOTTOM OF A    STEEP FLIGHT OF STEPS.■■⸜ CAN GO UP THE STAIRS□",
*,5,,,.
545 DATA"⸜N A SMALL SPARSELY   FURNISHED ROOM.  ■♥TEPSLEAD DOWN.",*,,,,.
550 DATA"⸜N AN OVERGROWN GARDEN□",*,,,,9,"⸜N A DOORWAY. ■♠ PLAQUE"
555 DATA"ON THE WALL READS-    '‾R ITTI I...‾ENTIST'",*,2,15,8,.
560 DATA"IY A WELL STOCKED BAR.□",*,,,,11,"⸜N AN ELEGANT CAFE.",*,12,13,10,.
561 DATA"IY A PILE OF TABLES.",*,,11,,,"ΓUTSIDE A SMALL CAFE. ■"
563 DATA"IHERE IS A BOUNCER ON THE DOOR.",*,,,14,.
565 DATA"ΓN THE PAVEMENT,AT THESIDE OF A MAIN ROAD.",*,,,15,13
570 DATA"IY A PELICAN CROSSING.■IHE TRAFFIC IS VERY   HEAVY HERE.",*,9,,,14
571 DATA"⸜N THE TOWN CENTRE.   ■IEAVY TRAFFIC STOPS MECROSSING THE ROAD.",*,,21,
17,,.
573 DATA"ΓUTSIDE A IUNSMITHS.  ■.T'S CLOSED.",*,,22,,16
575 DATA"♠T THE TOP OF A STEEP CLIFF.",*,,,19,.
580 DATA"ΓN A BRACKEN COVERED  HILLSIDE.",*,,24,20,18,"ΓN A SMALL PLATEAU.",*,,,
,19
581 DATA"ΓUTSIDE THE VILLAGE   ILACKSMITHS.  ■.T'S    LOCKED.",*,16,,22,.
583 DATA"IY THE SIDE OF A WIDE RIVER. ■IHERE'S A DRAW-BRIDGE HERE.",*,17,,,21
590 DATA"ΓN THE BANKS OF A     RIVER. ■IHERE'S A DRAW-BRIDGE HERE.",*,,28,.,22
591 DATA"⸜N A THICK FOG.",*,19,24,25,24,"IY A MAGNIFICENT ALTAR□",*,,,26,.
593 DATA"♠N EERIE CRYPT.",*,,31,27,25,"♠T THE ENTRANCE TO A  MAGNIFICENT TEMPLE.
",*,,,28,26
600 DATA"○ALKING BETWEEN TWO  .ROWS OF TALL PLANTS.  ■IHE PLANTS LOOK LIKE  TRIF
FIDS.",*
601 DATA23,,,27,"ΓN A MISTY MOUNTAIN   TOP.",*,24,,30,,"ΓUTSIDE A STRANGE    "
603 DATA"CASTLE.  ■♠ SOLDIER IS TO BE SEEN ON THE     BATTLEMENTS.",*,,,,29
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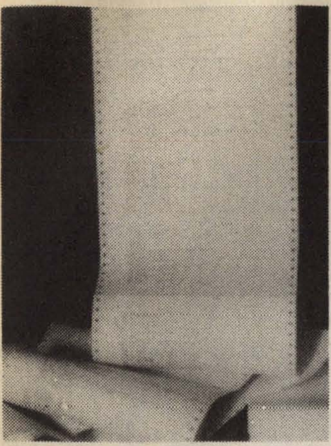

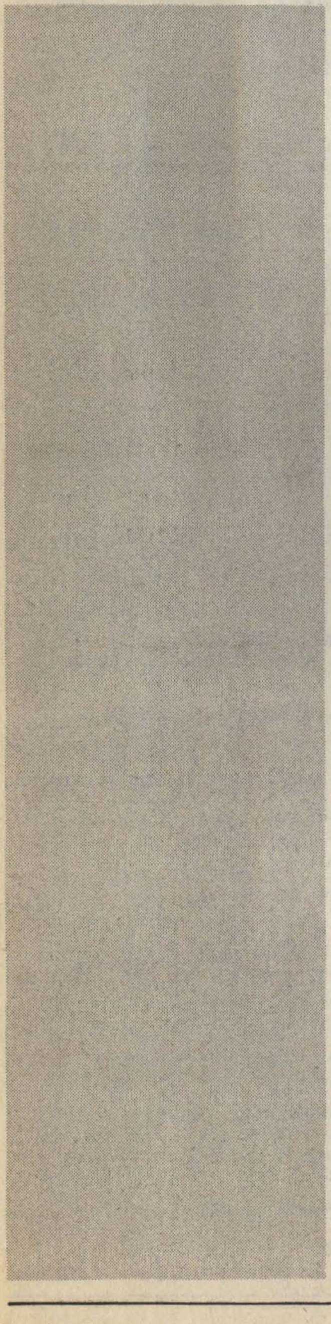

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610 DATA"↑T THE TOP OF SOME     STEPS.",*,26,34,,,"↑T THE BOTTOM OF SOME STEPS.",
*,0,35
611 DATA,,"\N A GLOOMY COURTYARD.█EASANTS ARE PUSHING  COFFINS AROUND.",*,30,38
,,.
613 DATA"\N AN ANTECHAMBER.",*,31,,,.
620 DATA"\N A DARK CAVERN.██LOODDRIPS DOWN THE COBWEB COVERED WALLS.",*,32,,,.
630 DATA"↑T THE BOTTOM OF THE  WEST TOWER.",*,,,37,,"\N A QUADRANGLE. ██HERE"
631 DATA"ARE VULTURES OVERHEAD.",*,,42,38,36
633 DATA"\N A PASSAGE.██HE WALLSARE LINED WITH ANCIENTSEPULCRES.",,*,33,43,39,37
635 DATA"\N A PASSAGE.██HERE ARETORCHES IN THE WALLS.",*,,,40,38
640 DATA"IY A LARGE OAK DOOR.  ██↑ WREATH OF GARLIC IS FASTENED TO THE DOOR.:T",*,
,,,39
641 DATA"\N A LARGE BEDROOM.    ██HERE'S A FOUR POSTER BED IN THE CORNER.",*,,,42
,.
643 DATA"\N A LIBRARY.  ██HERE'SA COAT OF ARMS ON THE WALL.",*,37,,43,41
650 DATA"IY A LARGE TOMB.",*,38,,,42,"\N A SECRET CHAMBER.",*,42,,,.
660 :
670 IFP%=6THENP%=7:RETURN
680 IFP%=32THENP%=31:RETURN
690 GOTO730
700 :
710 IFP%=7THENP%=6:RETURN
720 IFP%=31THENP%=32:RETURN
730 PRINT"██\ CAN'T DO THAT HERE!":RETURN
740 DATA"↑N OLD COPY OF THE      '¬ENTISTS |AZETTE'",2,GAZETTE
745 DATA"↑ GLASS OF 'IULL'S     ILOOD' WINE.",10,WINE,"↑ CLOVE OF GARLIC.",8,GARL
IC
750 DATA"↑ GOLDEN CANDLESTICK.",25,CANDLE,"↑ CRUCIFIX.",35,CRUCIFIX
755 DATA"↑ SET OF FALSE TEETH.",1,TEETH
760 DATA"↑ PAIR OF RUBBER       GLOVES.",7,GLOVES,"↑ LARGE METAL LEVER.",22,LEVER
765 DATA"↑ LARGE ROCK.",18,ROCK,"↑ VERY LARGE DANCING  SKELETON WHICH \ CAN'TGET
 FAST."
767 DATA40,SKELETON
770 DATA"↑N ANGRY DENTIST.",3,DENTIST,"↑ GIANT LIZARD.",42,LIZARD,"↑ DISCO-TICKE
T",5,TICKET
780 DATA"↑ JAR OF ♦/T‾-LIZARD REPELLENT.",12,REPELLENT,"↑ LARGE SILVER KEY.",4,
KEY
785 DATA"↑ PRIEST HOLDING A     GIANT CRUCIFIX.",30,PRIEST
790 DATA"↑ LARGE BIBLE.",35,BIBLE,"↑ JAR OF JAM.",11,JAM,"↑ DRILL.",4,DRILL
795 DATA"↑ PAINT POT.",37,"↑ PEASANT.",37,PEASANT
800 IFP%=13ANDAA=1THENP%=11:RETURN
810 IFP%=13THENPRINT"██HE BOUNCER ASKS        'oHERE'S YOUR TICKET?'":RETURN
820 PRINT"██\ CAN'T DO THAT YET!":RETURN
830 GOSUB1030:IFL%<1THENRETURN
840 E%=.:FORH=1TO20:IFB%(H)=P%ANDB%(N%(R))=P%THENE%=1
850 NEXT:IFE%=.THENRETURN
860 IFR=13THENAA=1
870 IFR=1THENAB=1
880 IFR=3THENPRINT"██<AMPIRES CAN'T CARRY  |↑_L\-!":RETURN
890 IFR=4THENPRINT"██↑ SECRET PANEL MOVES  ASIDE AND \ WALK THRU IT!!":P%=24:RET
URN
900 IFR=5THENPRINT"██\ CAN'T GO NEAR A      CRUCIFIX!":RETURN
910 IFR=8ORR=10ORR=12ORR=11ORR=16THENPRINT"██¬ON'T BE ABSURD!":RETURN
920 IFR=2THENAC=1
930 IFR=6THENAD=1
940 IFR=7THENAE=1
950 IFR=9THENAF=1
960 IFR=14THENAG=1
970 IFR=15THENAH=1
980 IFR=17THENAJ=1
990 E%=.:FORD=1TO5
1000 IFV$(D)=""THENV$(D)=G$(N%(R)):E%=1:D=6
1010 NEXT:IFE%=.THENPRINT"██\Y HANDS ARE FULL!":RETURN
1020 B%(N%(R))=.:RETURN
1030 L$="":FORH=1TOLEN(Z$)
1040 IFMID$(Z$,H,1)=" "THENL$=RIGHT$(Z$,(LEN(Z$)-H)):H=80
1050 NEXT:R=.:L%=.:IFLEN(L$)<2THENRETURN
1060 FORH=1TO20:IFLEFT$(N$(H),LEN(L$))=L$THENL%=1:R=H
1070 NEXT:RETURN
1080 E%=.:PRINT"██.'M CARRYING:-◣":PRINTX$:FORH=1TO5
1090 IFV$(H)<>""THENPRINTV$(H):E%=1
1100 NEXT:IFE%=.THENPRINT"██/OTHING AT ALL!"
1110 RETURN
1120 GOSUB1030:IFL%<1THENPRINT"██\ CAN'T SEE A ";L$:RETURN
1130 E%=.:FORD=1TO5
1140 IFV$(D)=G$(N%(R))THENV$(D)="":E%=1
1150 NEXT:IFE%=.THENPRINT"██.'M NOT CARRYING A":PRINTL$:RETURN
1160 B%(N%(R))=P%
1170 IFP%=3ANDR=1THENS%(3,3)=4:PRINT"██HE DENTIST THANKS ME & LETS ME PASS.":B%
(1)=.:B%(11)=.
1180 IFR=1THENAB=.
1190 IFR=2THENAC=.
1200 IFR=6THENAD=.
1210 IFR=7THENAE=.
1220 IFR=13THENAA=.
1230 IFR=14THENAG=.
1240 IFP%=30ANDR=17ANDC$="GIV"THENPRINT"██HE PRIEST THANKS ME &LETS ME PASS."
1245 IFP%=30ANDR=17ANDC$="GIV"THENG$(16)="↑ SMILING PRIEST":G$(17)="":S%(30,2)=3
3
```

```
1250 IFR=15THENAH=.
1260 IFR=17THENAJ=.
1270 RETURN
1280 PRINT"■■K.":FORX=1TO1000:NEXT
1290 IFP%=15THENPRINT"■■HE LIGHTS CHANGE AND ⸜ CROSS THE ROAD.":P%=16:RETURN
1300 IFP%=16THENPRINT"■■HE LIGHTS CHANGE AND ⸜ CROSS THE ROAD.":P%=15:RETURN
1310 IFP%=24THENPRINT"■■HE FOG LIFTS.
1315 IFP%=24THENQ$(24)="ΓN A MISTY HILLSIDE.   ■HERE'S A NARROW PATH TO THE ♥OUT
H."
1317 IFP%=24THENS%(24,2)=29:S%(24,3)=25:S%(24,4)=.
1320 RETURN
1330 IFP%<>22THENPRINT"■■⁄OT HERE!!":RETURN
1340 IFAI<>1THENPRINT"■■♠♠♠II II. ⸜ GET AN     ELECTRIC SHOCK!!":RETURN
1350 PRINT"■■HE DRAWBRIDGE COMES  DOWN!!":S%(22,3)=23:RETURN
1360 IFAE<>1THENPRINT"■■⸜ HAVEN'T GOT ANYTHINGTO WEAR!!":RETURN
1370 IFAI=1THENPRINT"■■⸜'M ALREADY WEARING   THEM!!":RETURN
1380 AI=1:FORX=1TO5:IFV$(X)=G$(7)THENV$(X)=""
1390 NEXTX:X$="♠ PAIR OF RUBBER      GLOVES...WORN!! ⅂L.♠:-"
1400 PRINT"■■‾.K.":RETURN
1410 IFP%<>40THENPRINT"■■⸜ CAN'T DO THAT HERE!!":RETURN
1420 IFAF<>1THENPRINT"■■⸜ HAVE NOTHING TO DO  THAT WITH!!":RETURN
1430 PRINT"■■HE SKELETON FALLS IN A PILE OF BONES!!"
1440 FORX=1TO5:IFV$(X)=G$(9)THENV$(X)=""
1450 NEXT
1460 AF=3:G$(10)="♠ PILE OF BONES":RETURN
1470 IFP%<>40THENPRINT"■■‾ON'T BE RIDICULOUS!!":RETURN
1480 IFAF<3THENPRINT"■■⸜ CAN'T GET PAST THE  SKELETON!!":RETURN
1490 IFAH<1THENPRINT"■■⸜ HAVEN'T GOT THE KEY!":RETURN
1500 PRINT"■■⸜ OPEN THE DOOR.":O$(40)="BY AN OPEN DOOR.":S%(40,2)=45
1510 RETURN
1520 IFAG<1THENPRINT"■■⸜ HAVEN'T GOT ANY      REPELLENT!!":RETURN
1530 IFP%<42THENPRINT"■■HERE'S NOT MUCH POINTIN THAT HERE!!":RETURN
1540 PRINT"■■⸜ SPRAY THE REPELLENT AND IT MOVES ASIDE.":S%(42,2)=44
1550 RETURN
```

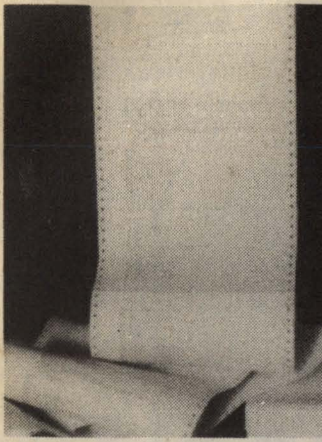
BLACKPOOL TOWER

You have been locked inside the house by your aunt who's up the street shopping. Being young and adventurous, you wish to get out and see the famous Blackpool Tower. You have to collect objects in order to gain entry into the Tower, where admission costs 50 pence. There is a roaring fire in the lounge which has to be contended with and a snake loose in the garden. If you ever get out, you'll have to watch the road, because you are only seven and cars are still are a health risk to you.

Commands are entered in using standard verb and noun entries. Original Oric program by D. Reynolds and published by *Computer & Video Games*, UK. The Vic 20 conversion is the copyright of Jimmy Fang (1986).

J. Fang
Forest Hill Vic.

```
0 REM*BLACKPOOL TOWER*
1 REM (C) J.FANG 1986
2 REM CONVERTED FROM THE ORIGINAL ORIC-1 PROGRAM BY D.REYNOLDS (C) 1984
3 REM(C)LEO WANKERSOFT,62 HUSBAND RD.,FOREST HILL,VICTORIA 3131,AUSTRALIA
4 REM FOR VIC-20 WITH 8K OR MORE RAM
10 FORI=.TO11:READA:POKE736+I,A:NEXT
15 DATA32,253,206,32,158,205,32,247,215,76,163,200
50 POKE36879,8:PRINT"■■■":RM=1:NL=19:NV=23:NI=12:LK%=1:LL%=1:LB%=1:I=.:OK$="■■
AY..."
60 GOSUB1000
70 PRINT"■■LOCATION:-■":PRINTL$(RM)
71 PRINT"■■ΓBVIOUS EXITS LEAD:-■":PRINT;:IFNO%(RM)>.THENPRINT"⁄ORTH,";
73 IFSO%(RM)>.THENPRINT"♥OUTH,";
75 IFEA%(RM)>.THENPRINT"‾AST,";
77 IFWE%(RM)>.THENPRINT"○EST,";
79 PRINT"■."
80 GOTO2600
90 PRINTCHR$(13)"■■○HAT SHALL I DO NOW":INPUT"=>■";I$:GOSUB200:IFI$="POUR WATE
THEN100
91 IFRND(1)<.6ANDRM=4THENPRINT"■■HE SNAKE BIT YOU.":GOTO9000
92 IFRM=15THEN9000
93 IFRM=6ANDFO=.THENPRINT"■■HE FIRE HAS SPREAD.   IOU ARE DEAD.":GOTO9000
94 IFRM=8THENL%(1)=-1:I=I-1
100 GOSUB200:GOSUB300
110 FORN=1TONV:IFV$=V$(N)THENSYS736,G%(N)
120 NEXT
130 PRINT"■■⸜ DON'T UNDERSTAND-■":PRINT"■■";CHR$(34);:GOSUB200:PRINTI$CHR$(34):
OTO90
140 PRINT"■■⸜ CAN'T GO ■"::GOSUB200:PRINTI$:GOTO90
150 PRINT"■■⸜ CAN'T ■";:GOSUB200:PRINTI$:GOTO90
200 FORN=1TOLEN(I$):SG$=MID$(I$,N,1)
210 IFSG$>="♠"ANDSG$<="♦"THENI$=LEFT$(I$,N-1)+CHR$(ASC(SG$)-128)+MID$(I$,N+1)
220 NEXT:RETURN
300 B$="":V$="":SP=.:FORN=1TOLEN(I$)
310 IFMID$(I$,N,1)=" "ANDSP=.THENSP=1:GOTO330
320 IFSP=.THENV$=V$+MID$(I$,N,1)
325 IFSP=1THENB$=B$+MID$(I$,N,1)
330 NEXT
340 RETURN
500 IFNO%(RM)THENRM=NO%(RM):GOTO70
502 GOTO140
505 IFEA%(RM)THENRM=EA%(RM):GOTO70
507 GOTO140
510 IFSO%(RM)THENRM=SO%(RM):GOTO70
512 GOTO140
515 IFWE%(RM)THENRM=WE%(RM):GOTO70
517 GOTO140
1000 DIMV$(NV),G%(NV),L$(NL),O$(NI),L%(NI),NO%(NL),WE%(NL),SO%(NL),EA%(NL)
1010 READD$:IFD$<>"START"THEN9999
1020 FORN=1TONV:READV$(N),G%(N):NEXT
```



```
1030 READD$:IFD$<>"OBJECTS"THEN9999
1040 FORN=1TONI:READO$(N),L%(N):NEXT
1041 DATA START,N,500,E,505,S,510,W,515,DROP,2000,PUT,2000,GET,2200,EAT,2400,LC
K,2600
1042 DATA OPEN,2800,PICK,3000,U,3200,D,3400,POUR,3600,I,3800,R,70,UNLOCK,4000
1043 DATA READ,4200,QUIT,9000,PLACE,4600,STOP,9000,GIVE,4800,ENTER,5000
1050 DATA OBJECTS
1060 DATA KEY,-1,SAW,4,PANSY,4,KNIFE,3,FORK,-1,FRUIT,2,10P,-1,CUP,-1,WATER,3
1061 DATA PAPER,-1,LITTER,18,50P,-1
1064 READD$:IFD$<>"LOCATIONS"THEN9999
1065 FORN=1TONL
1070 READP$:IFP$<>"*"THENL$(N)=L$(N)+P$
1080 IFP$<>"*"THEN1070
1090 READNO%(N),EA%(N),SO%(N),WE%(N)
1095 NEXT
1097 RETURN
1098 DATA LOCATIONS
1100 DATA" IOU'RE AT THE ENTRANCETO YOUR HOUSE.IHE DOORIS LOCKED SO THAT IT  "
1105 DATA"WON'T OPEN.",*,2,3,.,.
1110 DATA" IOU'RE IN THE LOUNGE. IHERE ARE SOME DRAWERSBY THE WALL, ALSO A    "
1115 DATA"LIGHT TO THE ⁄ORTH IS VISIBLE, NEXT TO THE  SETTEE.",*,6,.,1,.
1120 DATA" IOU'RE IN THE KITCHEN.IHERE IS A LOCKED DOORTO THE ¯AST. IHERE ARE"
1125 DATA"SEVERAL CUPBOARDS ON  THE WALL.",*,.,.,.,1
1130 DATA" IOU'RE IN THE BACKYARDIHERE IS A SNAKE LYINGON THE GROUND BY YOUR "
1135 DATA"FEET.",*,.,.,.,3
1140 DATA" IOU'RE AT THE BOTTOM  OF SOME STAIRS.  IHEREIS A CUPBOARD AT THE  "
1145 DATA"BOTTOM, BESIDE YOU.",*,.,6,9,.
1150 DATA" IOU'RE IN THE FRONT   ROOM. IHERE'S A SETTEEIN IT.  IHERE'S ALSO  "
1155 DATA"A COAL FIRE LIT.  ⌐T  LOOKS DANGEROUS.  IOU CAN SEE THE GARDEN     "
1160 DATA"THROUGH THE WINDOW TO THE ⁄ORTH, ♥OUTH IS  THE LOUNGE, ¯AST'S THE"
1165 DATA"HALL.  IHERE ARE SOME STEPS TO THE oEST.",*,.,7,2,5
1170 DATA" IOU'RE IN THE HALL.  ♠LOCKED DOOR IS ON THE NORTH WALL."
1175 DATA*,.,.,.,6
1180 DATA" IOU'RE IN THE GARDEN. IHERE'S A ROAD TO THE ⁄ORTH.  IHE DOOR SLAMS"
1185 DATA"SHUT, WITH THE KEY IN THE LOCK.",*,14,.,.,.
1190 DATA" IOU'RE AT THE TOP OF  THE STAIRS.  IHERE'S AROOM TO THE ♥OUTH.",*,5,.,
10,.
1195 DATA" IOU'RE ON A LANDING.  IHERE'S A ROOM TO THE ♥OUTH, AND ONE TO THE "
1200 DATA"TO THE ¯AST.",*,9,11,12,.
1205 DATA" IOU'RE BY A BED.",*,.,.,.,10
1210 DATA" IOU'RE IN A BEDROOM   WITH A BED TO THE      ♥OUTH.  IHERE'S A     "
1215 DATA"CUPBOARD TO THE LEFT  OF YOU.",*,10,.,13,.
1220 DATA" IOU'RE BY A BED.",*,12,.,.,.
1225 DATA" IOU'RE BY THE ROAD,   WHICH RUNS ¯AST-oEST. IHERE'S A HOUSE TO THE"
1230 DATA"⁄ORTH, ACROSS THE ROAD",*,15,16,.,17
1235 DATA" IOU'VE HAVE BEEN RUN  OVER BY A CAR.",*,.,.,.,.
1240 DATA"IHE ROAD COMES TO A   DEAD END AT THE ¯AST. IHERE'S A CARPARK TO  "
1245 DATA"THE ¯AST AND A PATH   oEST.",*,15,18,.,14
1250 DATA"IHE ROAD RUNS ¯AST -  oEST.  IHERE'S A TOWERTO THE ¯AST.",*,15,14,.,19
1255 DATA" IOU ARE IN THE CAR -  PARK. IHERE'S A LITTERBIN BY THE YOUR SIDE."
1260 DATA*,.,.,.,16
1265 DATA" IOU'RE BY IL♠⌐⌐TTL   I⌐o¯-!!   IOU CAN JUST HEAR THE SEA IN THE   "
1279 DATA"DISTANCE.  IHERE'S A  MAN AT THE DOOR WHO   WOULD LIKE 50P.",*,.,17,.,
.
1999 DATA END
2000 FD=.:FORN=1TONI:IFO$(N)=B$ANDL%(N)=.THENPRINTOK$:FD=1:I=I-1:L%(N)=RM
2002 IFB$=""THENPRINT"▒▒¯ROP WHAT?":GOTO90
2010 NEXT
2020 IFFD=.THENPRINT"▒▒⌐ DON'T HAVE A▒":PRINTB$;" ▒!"
2030 GOTO90
2200 IFI>=5THENPRINT"▒▒⌐ CAN'T CARRY ANY MORE":GOTO90
2202 IFB$=""THENPRINT"▒▒IET oHAT?":GOTO90
2205 FD=.:FORN=1TONI:IFO$(N)=B$ANDL%(N)=RMTHENPRINTOK$:I=I+1:FD=1:L%(N)=.
2210 NEXT
2220 IFFD=.THEN150
2230 GOTO90
2400 IFB$=""THENINPUT"▒▒¯AT WHAT =>";B$:GOTO2400
2410 IFB$="FRUIT"ANDL%(6)=.THENPRINT"▒▒⌐T WAS POISONED.":GOTO9000
2499 PRINT"▒▒⌐ MUST HAVE THE ▒";B$:PRINT"▒TO BE ABLE TO EAT IT.":GOTO90
2600 FD=.:FORN=1TONI:IFL%(N)<>RMTHENNEXT:GOTO2630
2610 IFFD=.THENPRINT"▒▒⌐ CAN SEE...":FD=1
2620 PRINT"▒A ";O$(N),;:NEXT
2630 IFFD=.ANDV$="LOOK"THENPRINT"▒▒⌐ CAN'T SEE ANYTHING  SPECIAL AT ALL."
2640 GOTO90
2800 IFB$=""THENINPUT"▒▒¯PEN WHAT =>▒";B$
2805 IFB$="CUPBOARD"THEN2850
2810 IFB$="DOOR"THEN2900
2815 IFB$="DRAWER"THENPRINT"▒▒IHERE ARE SOME PAPERS AND A FORK.":L%(10)=2
2816 IFB$="DRAWER"THENL%(5)=2:GOTO90
2849 GOTO150
2850 IFRM=5THENPRINT"▒▒IHERE'S AN ELECTRIC   METER WITH 10P ON IT.":L%(7)=5:GOTO
90
2860 IFRM=3THENPRINT"▒▒⌐T'S FULL OF CUPS.":L%(8)=3:GOTO90
2865 IFRM=12ANDLK%=1THENPRINT"▒▒⌐T'S LOCKED.":GOTO90
2870 IFRM=12THENPRINT"▒▒IHRE'S A KEY INSIDE.":L%(1)=12:GOTO90
2899 GOTO150

2900 IFRM=7ANDLL%=1THENPRINT"▒▒⌐T'S LOCKED.":GOTO90
2901 IFRM=3ANDLB%=.THENSO%(3)=4:GOTO90
```

```
2905 IFRM=7ANDLL%=.THENPRINT"▚▛▌IOU CAN SEE THROUGH TOTHE GARDEN.":NO%(7)=8:GOTO9
0
2910 IFRM=3ANDLB%=.THENPRINT"▚▛▌IOU CAN WALK IN,TO THEBACKYARD,TO THE ♦OUTH."
2999 GOTO150
3000 IFB$=""THENINPUT"▚█┐ICK WHAT =>▟";B$
3005 IFB$="LOCK"THEN3020
3019 GOTO150
3020 IFRM=7THENPRINT"▚▛▙╲ CAN'T PICK THIS LOCK":GOTO90
3030 IFL%(5)<>.THENPRINT"▚▛▙╲ NEED SOMETHING WITH SPIKES ON IT.":GOTO90
3040 IFRM=12THENLK%=.:PRINTOK$:GOTO90
3099 GOTO150
3200 IFRM=5THENRM=9:GOTO70
3400 IFRM=9THENRM=5:GOTO70
3410 GOTO140
3600 IFB$=""THENINPUT"▚█┐OUR WHAT =>▟";B$
3605 IFB$="WATER"THEN3650
3649 GOTO150
3650 IFL%(9)<>.THEN150
3660 PRINT"▚▛▌HE FIRE HAS BEEN PUT OUT BY THE WATER.":FO=1
3665 L%(9)=3:I=I-1
3670 GOTO90
3800 FD=.:FORN=1TONI:IFL%(N)<>.THENNEXT:GOTO3840
3810 IFFD=.THENPRINT"▚▙╲ HAVE THE FOLLOWING..":FD=1
3820 PRINT"A ▛";O$(N):NEXT
3840 IFFD=.THENPRINT"▚▛▙╲ DN'T HAVE ANYTHING."
3850 GOTO90
4000 IFB$=""THENINPUT"▚█╱NLOCK WHAT =>▟";B$
4005 IFL%(1)<>.THENPRINT"▚▛▌UT ╲ HAVE NO KEY.":GOTO90
4010 IFRM=7THENLL%=.:PRINTOK$:GOTO90
4015 IFRM=3THENLB%=.:PRINTOK$:GOTO90
4200 IFB$=""THENINPUT"▚█▁EAD WHAT =>▟";B$
4205 IFB$="PAPER"ANDL%(10)=.THENPRINT"▚▛╲T'S BLANK":GOTO90
4249 GOTO150
4600 IFB$=""THENPRINT"▚█┐LACE WHAT WHERE":INPUT"=>▟";B$
4610 IFLEFT$(B$,6)="LITTER"THEN4650
4649 GOTO150
4650 IF(MID$(B$,8)="IN BIN"ORMID$(B$,8)="IN LITTER BIN")ANDRM=18THEN4660
4655 PRINT"▚▛▙╲ CAN'T PUT IT THERE.":GOTO90
4660 PRINT"▚▛▌HE POLICEMAN WATCHINGYOU WAS DELIGHTED.   IE GIVES YOU 50P."
4665 L%(12)=.:L%(11)=-1:GOTO90
4800 IFB$=""THENPRINT"▚█▌IVE WHAT TO WHAT":INPUT"=>▟";B$
4801 IFRM<>19THENPRINT"▚▛▙╲ CAN'T DO THAT YET.":GOTO90
4805 IFLEFT$(B$,3)="MAN"THEN4850
4849 GOTO150
4850 IFL%(12)<>.THENPRINT"▚▛▌UT ╲ DON'T HAVE 50P  TO GIVE.":GOTO90
4855 PRINT"▚▛▌IE'LL NOW LET YOU IN.":E%=1:GOTO90
5000 IFB$=""THENINPUT"▚█┐NTER WHAT =>▟";B$
5005 IFB$="TOWER"ANDE%=1THENPRINT"▚▞▟▚  ┌╱ ▌♠╳▔ ┤╲┐└┐▔▔           ▏▙♦ ▏♠╲▔!
  ":END
5010 IFB$="TOWER"ANDE%=.THENPRINT"▚▛▌HE DOORKEEPER STOPS  YOU.   IE WANTS 50P.":G
OTO90
5049 GOTO150
9000 PRINT"▚▞█▘ANT ANOTHER GAME":INPUT"▚=>▟";Y$:IFY$="Y"THENRUN
```

CAMEL

You have to travel 200 kilometers across the Gobi desert, trying to out-run the cannibals, who are chasing you. You must renew your water supply and make sure you don't run your camel into the ground.

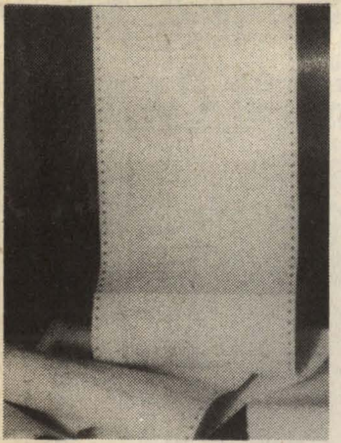
Watch out for storms and wild Berbers which hamper your attempts to reach the relative safety of civilization.

All commands are typed in using a number. This program was converted from an Applesoft program. This Vic 20 conversion is the copyright of Jimmy Fang (1986).

J. Fang
Forest Hill Vic.

```
1 REM CAMEL ADVENTURE
2 REM FOR VIC-20 WITH
3 REM 3K OR MORE RAM.
4 REM
5 REM (C) JIMMY FANG,
6 REM 62 HUSBAND RD.,
7 REM FOREST HILL,
8 REM VICTORIA 3131.
9 REM
90 OPEN1,3:CMD1
100 POKE36879,25:PRINTCHR$(142)CHR$(8)
105 PRINT"⊐█** CAMEL  ADVENTURE **"
115 PRINT"INSTRUCTIONS (Y/N)"
120 INPUTD$
125 PRINT
130 IF LEFT$ (D$,1) =  "N" THEN 320
135 PRINTCHR$(142)
140 PRINT"⊐█ WELCOME TO CAMEL. THEOBJECT IS TO TRAVEL   200 KMS ACROSS THE"
145 PRINT"GREAT GOBI DESERT.":PRINT"▚ A TRIBE OF KNOCK      KNEED PYGMIES WILL BE
"
150 PRINT"CHASING YOU.":PRINT"▚▛▙ YOU WILL BE ASKED FORCOMMANDS EVERY SO      OFTE
N."
155 PRINT"▚█PRESS ANY KEY."
157 POKE198,0:WAIT198,1
160 PRINT"⊐▛COMMANDS:-"
165 PRINT"■▚▟1▀ DRINK FROM CANTEEN"
170 PRINT"▤▚▟2▀ AHEAD MODERATE SPEED"
175 PRINT"■▟3▀ AHEAD FULL SPEED"
180 PRINT"▤▚▟4▀ STOP FOR THE NIGHT"
```

```
185 PRINT"■▚▚5■ STATUS CHECK"
190 PRINT"▚▚▚6■ HOPE FOR HELP"
195 PRINT"▚▚▚▚PRESS ANY KEY":POKE198,0:WAIT198,1
200 PRINT"▚▚▚▚PRESS ANY KEY"
205 PRINT"▚■YOU HAVE ONE LITRE OF WATER WHICH WILL LAST"
210 PRINT"FOR FOUR DRINKS."
215 PRINT"▚YOU MAY RENEW YOUR    WATER SUPPLY COMPLETE-LY AT AN OASIS."
220 PRINT"▚YOU MAY GET HALF A    LITRE IF FOUND BY HELP"
225 PRINT"▚IF HELP DOESN'T COME  AFTER COMMAND ▚6■,YOU   LOSE!"
230 PRINT"▚▚GOOD LUCK":PRINT"AND GOOD CAMELING!"
240 PRINT"▚▚PRESS ANY KEY"
250 POKE198,0:WAIT198,1:POKE198,0
320 PRINT
335 GOSUB2000
336 GOTO480
340 IFC>199THEN1210
350 Z=Z-1
355 IFZ=1THENPRINT"▚▚▚--- ■WARNING▚ ---":PRINT"■- GET A DRINK -"
356 PRINT
360 IFZ<0THEN1630
370 P=P+1
380 X2=INT(RND(1)*10)+2.5
400 IFP<4THEN470
410 C1=C1+X2
420 IFC1<CTHEN455
425 IFQ<0THENPRINT"▚▚PYGMIES HAVE ATTACKED THE BERBER CAMP."
430 PRINT"▚▚THE PYMIES HAVE CAUGHTYOU.CAMEL AND PEOPLE"
435 PRINT"SOUP IS THE PYGMIES'  FAVOURITE DISH!"
440 PRINT"▚▚YOU HAD TRAVELLED";C:PRINT"KILOMETRES ALTOGETHER"
450 GOTO1560
455 IFQ>0THEN1060
460 PRINT"▚■THE PYGMIES ARE";C-C1:PRINT"KMS BEHIND YOU."
470 PRINT"YOU HAVE TRAVELLED";C:PRINT"KILOMETRES"
475 PRINT
480 PRINT"▚▚COMMAND ME,OH MIGHTY  ADVENTURER:"
490 INPUTY
495 PRINT
500 ON Y GOTO 830,610,680,760,790
550 T=INT(RND(1)*10)
560 IFT<>1THEN1200
570 PRINT"▚▚ HELP HAS FOUND YOU INAN UNCONSCIOUS STATE."
580 S=2
590 Z=4
600 GOTO340
610 F=F+1
620 IFF=8THEN1190
630 GOSUB880
640 X1=INT(RND(1)*10)+1
650 C=C+X1
660 PRINT"▚■ YOUR CAMEL  LIKES    THIS PACE."
670 GOTO340
680 F=F+3
690 IFF>7THEN1190
700 GOSUB880
710 X1=INT(RND(1)*20)+1
720 C=C+X1
730 PRINT"▚■ YOUR CAMEL IS BURNINGACROSS THE DESERT     SANDS."
750 GOTO340
760 PRINT"▚▚YOUR CAMEL THANKS YOU"
770 F=0
780 GOTO350
790 PRINT"▚■ YOUR CAMEL HAS";7-F"GOODHOURS LEFT TODAY."
800 PRINT"▚ YOU HAVE";S;"DRINKS IN YOUR CANTEEN."
810 PRINT"▚▚ YOU CAN GO";Z:PRINT"COMMANDS WITHOUT WATER"
820 GOTO460
830 S=S-1:PRINT"▚▚GLUGG,GLUGG,GLUGG"
840 IFS<0THEN1200
850 IFS<1THENPRINT"▚▚ BETTER WATCH OUT FOR AN OASIS!":PRINT
860 Z=4
870 GOTO480
880 A=INT(RND(1)*100)
890 IFA>5THEN1120
895 Q=1
900 PRINT"▚▚ WILD BERBERS HIDDEN  IN THE SAND CAPTURED"
910 PRINT"YOU.LUCKILY THE LOCAL SHEIK HAS AGREED TO"
915 PRINT"THEIR RANSOM DEMANDS.."
920 PRINT"BUT...WATCH OUT FOR   PYGMIES!"
925 PRINT
930 PRINT"▚■ YOU HAVE A NEW CHOICEOF SUB-COMMANDS:"
940 PRINT"▚▚▚7■ ATTEMPT TO ESCAPE"
950 PRINT"▚■▚8■ WAIT FOR PAYMENT."
960 PRINT"▚▚YOUR SUB-COMMAND:"
970 INPUTX:PRINT
980 IFX=8THEN1100
990 X1=INT(RND(1)*10)
1000 IFX1<5THEN1040
1010 PRINT"▚▚CONGRATS.YOU SUCCEEDEDIN ESCAPING!"
1020 Q=0
```



```
1030 GOTO340
1040 PRINT"■ YOU WERE MORTALLY   WOUNDED BY A PYGMY    SNIPER WHILE ESCAPING."
1050 GOTO1410
1060 X1=INT(RND(1)*100)
1070 REM
1080 IFX1>24THEN1100
1090 PRINT"■■ YOUR RANSOM HAS BEEN PAID AND YOU ARE FREE TO GO."
1095 Q=0:GOTO340
1100 PRINT"■■ THE LOCAL SHEIK IS   COLLECTING."
1101 PRINT"■... JUST BE PATIENT..."
1105 C1=C1+4
1110 GOTO420
1120 A=INT(RND(1)*10)
1130 IFA>2THEN1240
1140 PRINT"■■YOU HAVE ARRIVED AT AN OASIS...YOUR CAMEL ISFILLING YOUR CANTEEN"
1150 PRINT"AND EATING FIGS."
1160 Z=4:S=4
1180 RETURN
1190 PRINT"■■ YOU DIRTY BASTARD!   YOU RAN YOUR CAMEL TO HIS DEATH."
1200 GOTO1410
1210 PRINT
1215 PRINT"■■YOU WIN! A PARTY IS   BEING GIVEN IN YOUR"
1220 PRINT"HONOUR...THE PYGMIES  ARE PLANNING TO ATTEND"
1230 GOTO1560
1240 X1=INT(RND(1)*100)
1250 IFX1>5THEN1350
1260 PRINT"■■ YOU HAVE BEEN CAUGHT IN A SANDSTOREM...    GOOD LUCK SUCKER."
1270 X5=INT(RND(1)*10)
1280 X6=INT(RND(1)*10)
1290 IFX6<5THEN1320
1300 C=C+X5
1310 GOTO1330
1320 C=C-X5
1330 PRINT"■YOUR NEW POSITION IS":PRINTC"KM SO FAR."
1335 PRINT
1340 RETURN
1350 X1=INT(RND(1)*100)
1360 IFX1>5THENRETURN
1370 C1=C1+1
1380 PRINT"■■YOUR CAMEL HURTS IT   HUMP."
1390 PRINT"■LUCKILY THE PYGMIES   ARE FOOTWEARY!"
1400 RETURN
1410 U=INT(RND(1)*10)
1415 PRINT
1420 PRINT"■■YOU DIED IN THE DESERTAFTER";C;"KMS."
1430 IFU>1THEN1460
1440 PRINT"■THE NATIONAL CAMEL'S  UNION IS NOT ATTENDINGYOUR FUNERAL"
1450 GOTO1560
1460 IFU>3THEN1490
1470 PRINT"■YOUR BODY WAS EATEN BYVULTURES AND IMPORTED CANNIBALS."
1480 GOTO1560
1490 IFU>5THEN1520
1500 PRINT"■THE LOCAL SHEIK NOW   USES YOUR SKULL AS A  CHANGE PURSE."
1510 GOTO1560
1520 IFU>7THEN1550
1530 PRINT"■PEOPLE WITH LITTLE    INTELLIGENCE SHOULD"
1535 PRINT"STAY OUT OF THE DESERT"
1540 GOTO1560
1550 PRINT"■TURKEYS SHOULD FLY,NOTRIDE CAMELS!"
1560 PRINT
1580 PRINT"■■WANT A NEW CAMEL AND  A NEW GAME."
1590 INPUTD$
1595 PRINT
1600 IFLEFT$(D$,1)="Y"THENRUN
1620 GOTO1650
1630 PRINT"■■YOU RAN OUT OF WATER..SORRY CHUM!"
1640 GOTO1410
1645 PRINT
1650 PRINT
1660 PRINT"--------------"
1670 PRINT"   CHICKEN !  "
1680 PRINT"--------------"
1690 PRINT#1:CLOSE1
1700 PRINT"■":END
2000 Z=3:S=4:P=1:RETURN
```

VZ200/300

DRAWING PROGRAM

This is my version of a hi-res drawing program with a joystick option and printout capability for the VZ200/300.

R. Winter
Morphett Vale SA

```
0 CLS:PRINT:PRINT" PRESS 'K' FOR KEYBOARD CONTROL"
1 PRINT:PRINT"     OR 'J' FOR  JOYSTICK  "
2 PRINT" **NO COPY AVIALABLE WITH 'J'**"
3 C$=INKEY$:C$=INKEY$
4 IFC$="K"GOTO7
5 IFC$="J"GOTO200
6 IFC$=""GOTO3
7  CLS:PRINT:PRINT"     KEYBOARD  INSTRUCTIONS  "
8 PRINT:PRINT" USE ARROW KEYS FOR L/R/U/D"
9  PRINT:PRINT" USE 'A' FOR U/L - 'S' FOR U/R"
10       PRINT" USE 'Z' FOR D/L - 'X' FOR D/R"
11 PRINT:PRINT"      'R' TO RUB OUT"
12 PRINT"      'P' FOR PRINTED COPY"
13 PRINT"      'U' TO CLEAR SCREEN"
14 PRINT@453,"- PRESS 'G' TO GO -"
15 S$=INKEY$:S$=INKEY$
16 IF S$<>"G"GOTO15
17 MODE(1)
18 X=35:Y=35
19 SET(X,Y)
20 K$=INKEY$:FORT=1TO80:NEXT:K$=INKEY$
50 IFK$="M"X=X-1:GOSUB182
55 IFK$="A"X=X-1:Y=Y-1:GOSUB182
60 IFK$=","X=X+1:GOSUB182
65 IFK$="S"X=X+1:Y=Y-1:GOSUB182
70 IFK$="."Y=Y-1:GOSUB182
75 IFK$="Z"Y=Y+1:X=X-1:GOSUB182
80 IFK$=" "Y=Y+1:GOSUB182
85 IFK$="X"Y=Y+1:X=X+1:GOSUB182
100 IFK$="R"RESET(X,Y)
110 IFK$="P"COPY
115 IFK$="U"CLS:FORH=1TO200:NEXT:GOTO17
120 GOTO20
182 IFX<0X=0
184 IFY<0Y=0
186 IFX>127X=127
188 IFY>63Y=63
190 SET(X,Y)
195 RETURN
200 CLS:PRINT:PRINT" USE LH STICK FOR 8 DIRECTIONS"
202 PRINT:PRINT"   PRESS 'C' TO CLEAR SCREEN"
203 PRINT@422,"- PRESS 'G' TO GO -"
204 S$=INKEY$:S$=INKEY$
205 IF S$<>"G"GOTO204
206 MODE(1)
208 X=35:Y=35
210 SET(X,Y)
220 A=(INP(43)AND31)
222 L$=INKEY$:L$=INKEY$
250 IFA=27X=X-1:GOSUB182
255 IFA=26X=X-1:Y=Y-1:GOSUB182
260 IFA=23X=X+1:GOSUB182
265 IFA=22X=X+1:Y=Y-1:GOSUB182
270 IFA=30Y=Y-1:GOSUB182
275 IFA=25Y=Y+1:X=X-1:GOSUB182
280 IFA=29Y=Y+1:GOSUB182
285 IFA=21Y=Y+1:X=X+1:GOSUB182
300 IFA=15RESET(X,Y)
310 IFL$="C"CLS:FORJ=1TO200:NEXT:GOTO206
320 GOTO220
```

TEA-POT SONG

This is a computer variation of my four year old daughter's favourite song.

R. Winter
Morphett Vale SA

```
0 CLS:PRINT@136,"-█▌▛▜▛▜▟▐▙██▌▐▟▐█-":FORT=1TO400:NEXTT
5 GOSUB100:GOSUB108:GOSUB115
6 FORT=1TO500:NEXTT
10 PRINT@43,"I'M A LITTLE TEA-POT"
11 SOUND16,2;18,2;20,2;21,2;23,4;28,4
15 PRINT@35,"          "
16 PRINT@67,"          "
17 PRINT@99,"          "
18 GOSUB102:GOSUB108
19 PRINT@76,"SHORT... "
21 SOUND25,4
25 PRINT@288,"  ██▄▀▄███ "
26 PRINT@320,"  ██▛▄▀███ "
27 PRINT@352," █▛▀▀▀▀▀▀▜█"
29 PRINT@85,"AND STOUT."
30 SOUND28,4;23,6
35 PRINT@256," █████████ "
36 PRINT@288," █ ██▄▀▄██ "
37 PRINT@320," █ █▛▄▀███ "
39 PRINT@141,"HERE IS MY HANDLE,"
40 SOUND21,4;21,2;21,2;20,4;20,4
41 PRINT@256," ███████████"
42 PRINT@288," █ ██▄▀▄█   "
43 PRINT@320," █ █▛▄▀█   "
44 PRINT@352," █▛▀▀▀▀▀   "
45 PRINT@224,"     ██   █ "
46 PRINT@192,"    ▙▄▄▟   █▛"
50 PRINT@174,"HERE IS MY SPOUT."
54 SOUND18,4;18,2;18,2;16,6
55 PRINT@43,"   WHEN I GET ALL    "
56 PRINT@76,"   STEAMED UP       "
58 PRINT@141,"                   "
59 PRINT@172,"                      "
60 SOUND16,2;18,2;20,2;21,2;23,4;28,4
61 PRINT@96,"    \!!/   "
62 FORT=1TO20:NEXTT
63 PRINT@64,"   0 00 0  "
64 FORT=1TO20:NEXTT
65 PRINT@32,"  \ \!!/ / "
66 FORT=1TO20:NEXTT
67 PRINT@ 0," 0 0 00 0 0"
69 PRINT@142,"HEAR ME SHOUT... "
70 SOUND25,4;28,4;23,6
71 PRINT@0,"                         "
72 PRINT@32,"                                 "
75 PRINT@64,"  TIP ME OVER....                "
76 PRINT@96,"                 "
78 PRINT@142,"                  "
79 SOUND28,6;25,2;23,4;21,4
80 PRINT@192,"     ▙▄▄▟       "
81 PRINT@224,"      ██     ██ "
82 PRINT@256," ██████████ █  █"
83 PRINT@288," █ ██▄▀▄█ ██    "
86 PRINT@384,"     ████ "
87 PRINT@416,"    ██  █ "
88 PRINT@448,"         █▛"
89 PRINT@81,"POUR ME OUT!":SOUND20,4;18,4;16,6
90 PRINT@432," ██▛▜":PRINT@464," ██ "
91 FORT=1TO200:NEXTT
92 PRINT@304,"V":SOUND16,1:PRINT@336,"V":SOUND15,1:PRINT@369,"V"
93 SOUND14,1:PRINT@401,"V":SOUND13,1:FORT=1TO20:NEXTT:SOUND12,8
94 FORT=1TO1500:NEXTT
95 PRINT@480," ":PRINT"     HIT 'Y' TO RUN AGAIN";
96 A$=INKEY$:A$=INKEY$:IFA$="Y"GOTO5
97 IFA$=""GOTO96
99 IFA$<>"Y"GOTO96
100 CLS
101 PRINT
102 PRINT"      ▛▀▀▜     "
103 PRINT"     ██▛▙▄▟▛██   "
104 PRINT"      ▙▄▄▄▟     "
105 PRINT"        ██      "
106 PRINT"    █████████   "
107 RETURN
108 PRINT"  █ ██▄▀▄█ █  "
109 PRINT"  █ █▛▄▀██ █  "
110 PRINT" ██ ▀▀▀▀▀ ██ "
112 PRINT"     █████ "
113 PRINT"     █   █ "
114 RETURN
115 PRINT"     █   █ "
116 PRINT"     █   █ "
117 PRINT"     █   █ "
118 PRINT"    ██   ██ "
120 RETURN
```

PING TENNIS

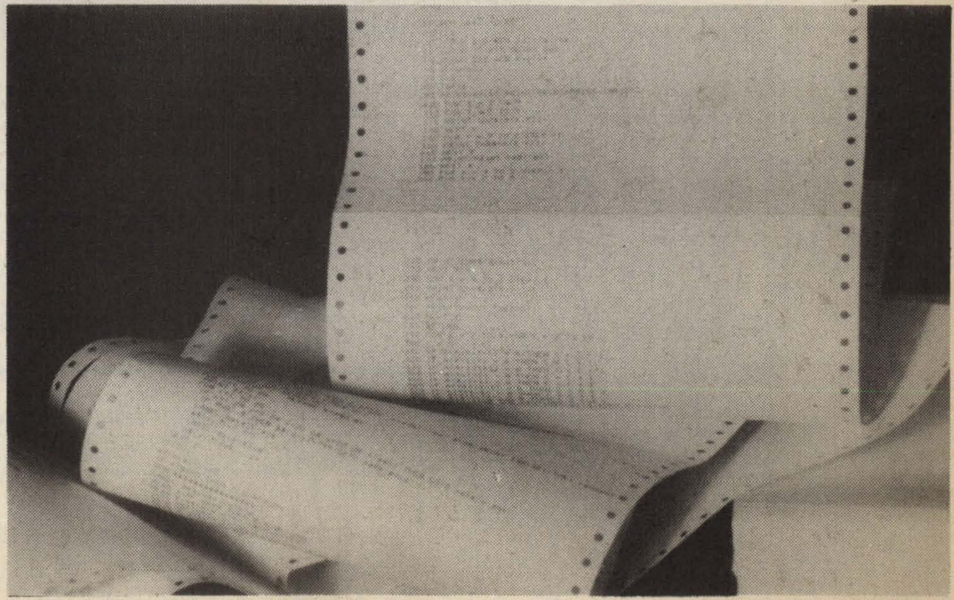
A two player game of tennis with no net! You can move as close to your opposition as you like. You can also hit the ball into the walls on the sides. The first person to three sets wins. The first person to 21 points wins a set. Like tennis, you have to win the set by two or more points or the set continues. This game requires joysticks.

Because of my printers' limitations, I could not include graphics symbols in the program printout so here is a list of them:

line 115
"Shift J(x16)"
line 120
"Shift J(x16)"

R. Duncan
Crafers SA

```
1 POKE30744,1:CLS
99 XX=1:X=1
100 CLS:B=7:C=1:D=7:E=30
105 FORZ=28672TO29152STEP32:POKEZ,175:NEXT
110 FORZ=28703TO29183STEP32:POKEZ,191:NEXT
115 COLOR3:PRINT@0,"                ":PRINT@0,BC:PRINT@6,CC
120 COLOR4:PRINT@16,"                ":PRINT@28,DC:PRINT@22,EC
210 POKE28672+(32*YX+XY),32
215 POKE28672+(32*YY+XX),15
220 YX=YY:XY=XX
225 IFYY>14THENY=RND(2)-2
226 IFYY<2THENYY=1:Y=RND(2)-1
230 IFXX>30THEN500
235 IFXX<1THEN400
240 XX=XX+X:YY=YY+Y
245 A=(INP(43)AND31)
250 IFA=30THENPOKE28704+(32*B+C),32:B=B-1
255 IFA=29THENPOKE28704+(32*B+C),32:B=B+1
256 IFA=27THENPOKE28704+(32*B+C),32:C=C-1
257 IFA=23THENPOKE28704+(32*B+C),32:C=C+1
260 IFB>14THENB=14
262 IFC<1THENC=1
265 IFB<0THENB=0
267 IFC>29THENC=29
270 POKE28704+(32*B+C),175
275 IFABS(B+1-YY)<2ANDC=XXTHENX=+1:Y=RND(3)-2
280 F=(INP(46)AND31)
285 IFF=30THENPOKE28704+(32*D+E),32:D=D-1
290 IFF=29THENPOKE28704+(32*D+E),32:D=D+1
295 IFF=27THENPOKE28704+(32*D+E),32:E=E-1
300 IFF=23THENPOKE28704+(32*D+E),32:E=E+1
305 IFD>14THEND=14
307 IFE<2THENE=2
310 IFD<0THEND=0
312 IFE>30THENE=30
315 POKE28704+(32*D+E),191
320 IFABS(D+1-YY)<2ANDE=XXTHENX=-1:Y=RND(3)-2
371 GOTO210
400 DC=DC+1:IFDC>20ANDDC-BC>1THENDC=0:BC=0:EC=EC+1
405 IFEC>2THENEND
410 XX=1:X=1:GOTO100
500 BC=BC+1:IFBC>20ANDBC-DC>1THENDC=0:BC=0:CC=CC+1
505 IFCC>2THENEND
510 XX=30:X=-1:GOTO100
```



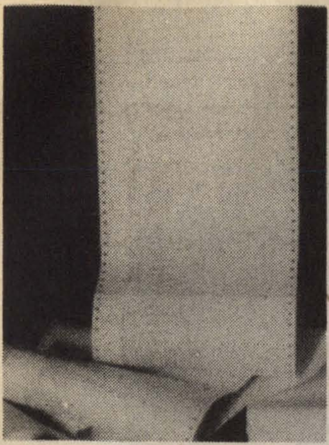
CONCENTRATION

The program called Concentration and is based on the age old game of the same name. Between ten and fifty cards can be selected to appear on the screen. Behind these cards are randomly hidden pairs of cards. The game is finished when all the pairs of cards have been uncovered.

This program is a real test of your concentration.

L. Vella
Leopold Vic.

```
12 REM  A GAME OF CONCENTRATION
13 REM  BY L.J. VELLA
14 REM  1986
15 POKE30744,1
16 REM 17-24 PREPARE FOR INTRODUCTION
17 DATA 28672,28688,28928,28944,175,198,227,245
18 DIM J(4):DIM H(4)
19 FOR B=1 TO 4
20 READ J(B)
21 NEXT
22 FOR B=1 TO 4
23 READ H(B)
24 NEXT
25 IF PEEK(28672)=159 GOTO 47
26 CLS
27 REM 28-39 DRAWS INTRODUCTION
28 GOTO 34
29 POKE AF,AG
30 AH=AH+1:IF AH=16 THEN AH=0:AF=AF+16
31 AF=AF+1
32 AI=AI+1:IFAI=128 GOTO 34
33 GOTO 29
34 SOUND 31,1
35 AJ=AJ+1
36 IF AJ=5 THEN GOTO 46
37 AG=H(AJ):AF=J(AJ)
38 AH=0:AI=0
39 GOTO 29
46 GOSUB 10180
47 CLS:PRINT@100,"DO YOU WANT INSTRUCTIONS"
48 PRINT@172,"(Y OR N)":FOR B=1 TO 300:NEXT
49 F$=INKEY$
50 H$=INKEY$:IF H$="" GOTO 49
60 IF H$="Y"OR H$="N" GOTO 70
62 CLS:PRINT@99,"YOU DID NOT PRESS (Y OR N)"
63 GOSUB 12300
64 GOTO 47
70 IF H$="Y"GOSUB 10620
71 CLS
72 POKE30744,1
73 GOSUB 10480
74 GOSUB 10240
75 DIM A(99):REM 75-180 NUMBER POSITION
76 DATA 28706,28709,28712,28715,28718,28721,28724,28727,28730
77 DATA 28733,28770,28773,28776,28779,28782,28785,28788,28791
79 DATA 28794,28797,28834,28837,28840,28843,28846,28849,28852
80 DATA 28855,28858,28861,28898,28901,28904,28907,28910,28913
100 DATA 28916,28919,28922,28925,28962,28965,28968,28971,28974
120 DATA 28977,28980,28983,28986,28989
140 FOR B=1 TO 50
160 READ A(B)
180 NEXT B
190 REM 200-290 GRAPHIC CHARACTERS
200 DIM C(25)
220 DATA 208,239,175,191,255,223,143,227,217,188,165,133,172
240 DATA 243,140,231,179,163,252,131,185,250,136,169,184
260 FOR B=1 TO 25
280 READ C(B)
290 NEXT
295 REM 300-390 SHUFFLES CARDS
300 DIM D(AK)
310 FOR B=1 TO AK
320 E=RND(AL)
330 IF C(E)=0 GOTO 320
340 IF C(E) >300 THEN C(E)=C(E)-200 :I=1
350 D(B)=C(E)
360 IF I=1 THEN C(E)=0
370 IF I=0 THEN C(E)=C(E)+200
380 I=0
390 NEXT
700 DIM H$(4)
705 REM 710-735 SCOREBOARD INFORMATION
710 B=RND(2):IF B=2 THEN X=1
720 PRINT@353,"                               "
```



```
724 IF W=1 THEN X=0
725 PRINT@449,B$;" ";Y
726 IFW<>1 PRINT@464,A$;" ";Z
727 PRINT@425,"< SCOREBOARD >"
728 IF Z+Y=AL GOTO 12100
729 IF X=1 PRINT@353,A$
730 IF X=0 PRINT@353,B$
735 IF W=1 PRINT@464,"ATTEMPTS";   AC
738 REM 739-834 NUMBER SELECTION
739 C=1
740 IFR=4ANDA=1ORR=4ANDAA=1ORR=4ANDG=1ORR=4ANDGG=1:C=3
741 A=0:AA=0:K=0:G=0:GG=0:NP=0
742 IFC=1:H$(1)="":H$(2)="":H$(3)="":H$(4)=""
743 IFC=3:H$(3)="":H$(4)=""
744 IFC=1 PRINT@418,"      "
746 IFC=3 PRINT@422;"  "
747 IFC=1THEN U=418
748 IFC=3 U=422
750 FOR R=C TO 4
755 IF R<=2 PRINT@385,"SELECT YOUR FIRST NUMBER      "
760 IF R>=3 PRINT@385,"SELECT YOUR SECOND NUMBER      "
765 F$=INKEY$
770 G$=INKEY$:IF G$="" THEN 765
775 IF G$="0"ORG$="1"ORG$="2"ORG$="3"ORG$="4"ORG$="5" THEN K=1
780 IFG$="6"ORG$="7"ORG$="8"ORG$="9" THEN K=1
785 IF K=1 THEN 790 ELSE 765
790 PRINT@U,G$
795 SOUND 31,1
800 U=U+1
810 IF U=420 LET U=422
815 H$(R)=G$
820 C$=H$(1)+H$(2)+H$(3)+H$(4)
825 D$=LEFT$(C$,2)
830 E$=RIGHT$(C$,2)
834 S=VAL(D$)
835 REM 836-970 NUMBER PARAMETERS CHECK
836 IF R=2 GOSUB 856:IF AA=1 OR G=1 OR GG=1 OR A=1 GOTO 739
837 IF R=2 GOTO 1020
840 T=VAL(E$)
841 IF R=4 GOSUB 856:IF AA=1 OR G=1 OR GG=1 OR A=1 GOTO 740
842 K=0
850 NEXT
852 PRINT@385,"                              "
855 GOTO 1020
856 L=A(S):M=A(T)
857 IF R=2 N=PEEK(L):O=PEEK(L-1)
858 P=PEEK(M):Q=PEEK(M-1)
859 IF R=2:IF N<48 OR N>57 THEN LET A=1
860 IF R=4:IF P<48 OR P>57 THEN LET A=1
861 IF S>AK OR T>AK THEN G=1
862 IF R=4 AND S=T THEN AA=1
863 IF S=0 OR R=4 AND T=0 THEN GG=1
866 IF GG=1PRINT@385,"YOUR NUMBER WAS (00)          ":GOSUB12300
870 IFG=1PRINT@385,"THIS NUMBER IS LARGER THAN";AK:GOSUB12300
872 IF AA=1PRINT@385,"THE TWO NUMBERS ARE THE SAME":GOSUB12300
950 IF A=1ANDG=0ANDAA=0ANDGG=0 THEN LETNP=1
960 IFNP=1PRINT@385,"THIS SQUARE HAS BEEN PICKED":GOSUB12300
970 RETURN
1010 REM 1020-1120 DISPLAY SQUARE
1020 IF R=2 POKE A(S),D(S):POKE A(S)-1,D(S):SOUND1,1:GOTO 842
1040 POKE A(T),D(T):POKE A(T)-1,D(T)
1050 IF W=1 THEN AC=AC+1
1060 IF PEEK(L) = PEEK(M) GOSUB 3000 ELSE 1100
1080 GOTO 720
1100 SOUND 10,1
1105 PRINT@385,"THESE TWO ARE NOT MATCHED"
1110 FOR B=1 TO V:NEXT
1115 PRINT@385,"                         "
1120 POKE L,N:POKE L-1,O:POKE M,P:POKE M-1,Q
1130 REM 1140-1160 WHO GOES NEXT
1140 IF X=0 THEN X=1:GOTO 720
1160 IF X=1 THEN X=0:GOTO 720
2999 REM 3000-3160 SCOREBOARD
3000 PRINT@418,"      "
3007 IF X=0 PRINT@352," ";B$;" YOU MATCHED A PAIR"
```

```
3008 IF X=1 PRINT@352," ";A$;" YOU MATCHED A PAIR"
3009 SOUND 16,2;18,2;20,2;21,2;23,2;25,2;27,2;28,2
3010 IF W=1 GOTO 3140
3020 IF X=0 THEN Y=Y+1
3040 IF X=1 THEN Z=Z+1
3060 IF Z+Y=AL RETURN
3080 IFX=0 PRINT@385,"YOU CAN HAVE ANOTHER GO          "
3100 IFX=1 PRINT@385,"YOU CAN HAVE ANOTHER GO          "
3110 SOUND 10,2;20,2
3115 FOR B=1 TO V:NEXT
3120 RETURN
3140 Y=Y+1
3160 RETURN
10180 COLOR 8,1
10190 PRINT@99,"A GAME OF"
10200 PRINT@193,"CONCENTRATION"
10220 PRINT@433,"BY  L.J  VELLA"
10225 FOR B=1 TO 2000:NEXT
10230 CLS
10235 RETURN
10240 COLOR 2,0
10260 PRINT"■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■"
10280 PRINT@32,"■ 1■ 2■ 3■ 4■ 5■ 6■ 7■ 8■ 9■10■■"
10300 PRINT@64,"■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■"
10310 IF AK>=20 PRINT@96,"■11■12■13■14■15■16■17■18■19■20■■"
10320 IF AK>=20 PRINT@128,"■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■"
10340 IF AK>=30 PRINT@160,"■21■22■23■24■25■26■27■28■29■30■■"
10360 IF AK>=30 PRINT@192,"■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■"
10380 IF AK>=40 PRINT@224,"■31■32■33■34■35■36■37■38■39■40■■"
10400 IF AK>=40 PRINT@256,"■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■"
10420 IF AK=50  PRINT@288,"■41■42■43■44■45■46■47■48■49■50■■"
10440 IF AK=50  PRINT@320,"■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■"
10445 PRINT@353,"   PLEASE WAIT WHILE I AM       "
10450 PRINT@388," SHUFFLING THE CARDS "
10460 RETURN
10480 PRINT" SELECT THE NUMBER OF PLAYERS                (1 OR 2)"
10481 FOR B=1 TO 200:NEXT
10482 F$=INKEY$
10483 H$=INKEY$:IF H$="" GOTO 10482
10484 W=VAL(H$)
10485 IF W=1 OR W=2 GOTO 10520
10490 CLS:PRINT@226,"YOU DID NOT PICK A (1) OR (2)"
10495 GOSUB 12300:CLS:GOTO 10480
10520 CLS:FOR B=1 TO 300:NEXT
10521 CLS:PRINT"  ENTER THE NAME OF THE FIRST"
10522 INPUT"  PLAYER AND PRESS RETURN        ";B$
10523 IFLEN(B$)=0GOTO10521
10525 IF LEN(B$)<11 GOTO 10540
10530 CLS:PRINT@100,"YOUR NAME HAD MORE THAN"
10531 PRINT@138,"TEN LETTERS"
10535 GOSUB 12300:CLS:GOTO 10520
10540 IF W=1 THEN X=0:GOTO10580
10550 CLS:PRINT"  ENTER THE NAME OF SECOND"
10555 INPUT"  PLAYER AND PRESS RETURN        ";A$
10560 IFLEN(A$)=0GOTO10550
10562 IF LEN(A$)<11 GOTO 10580
10564 CLS:PRINT@100,"YOUR NAME HAD MORE THAN"
10565 PRINT@138,"TEN LETTERS"
10566 GOSUB 12300:CLS:GOTO10550
10580 CLS:PRINT@99,"WOULD YOU PLEASE SELECT THE"
10582 PRINT@131,"AMMOUNT OF TIME THE SYMBOLS
10584 PRINT@163,"STAY DISPLAYED ON THE SCREEN"
10586 PRINT@233,"1 = 1 SECONDS"
10588 PRINT@265,"2 = 2 SECONDS"
10590 PRINT@297,"3 = 3 SECONDS"
10591 PRINT@329,"4 = 4 SECONDS"
10592 PRINT@361,"5 = 5 SECONDS"
10594 F$=INKEY$
10595 H$=INKEY$:IF H$="" GOTO 10592
10597 V=VAL(H$)/2*1000
10598 IF V>=500 AND V<=2500 THEN GOTO 10599 ELSE 10594
10599 CLS
10600 CLS:PRINT@99,"WOULD YOU PLEASE SELECT HOW"
10601 PRINT@131,"MANY SQUARES YOU WOULD LIKE"
10602 PRINT@163,"TO PLAY AND THEN PRESS":PRINT@195,"RETURN"
```

```
10603 PRINT@227,"NOTE YOU CAN ONLY SELECT"
10604 PRINT@259,"10,20,30,40,OR 50"
10605 PRINT@292," "
10606 INPUT"     SELECT HOW MANY SQUARES";AK
10607 IF AK=10 OR AK=20ORAK=30 OR AK=40 OR AK=50 THEN GOTO 10612
10609 CLS:PRINT@100,"YOU DID NOT SELECT"
10610 PRINT@132,"10,20,30,40,OR 50":GOSUB 12300
10611 GOTO 10600
10612 AL=AK/2
10619 CLS:RETURN
10620 CLS:AB=0
10630 COLOR,0
10635 PRINT"          INSTRUCTIONS"
10640 PRINT"          ████████████"
10660 PRINT"  YOUR GAME OF CONCENTRATION IS"
10680 PRINT@96,"VERY EASY TO PLAY.SIMPLY ATTEMPT"
10700 PRINT@128,"TO MATCH THE PAIRS OF SYMBOLS"
10720 PRINT@160,"HIDDEN BEHIND THE CARDS.IT CAN"
10740 PRINT@192,"BE PLAYED BY ONE OR TWO PERSONS."
10760 PRINT@224,"TWO PERSONS"
10780 PRINT@256,"   INITIALLY THE COMPUTER THROWS"
10800 PRINT@288,"A DICE TO SELECT WHO GOES FIRST."
10810 PRINT@320,"NEXT THE COMPUTER WILL ASK IN"
10820 PRINT@352,"TURN,EACH PLAYER TO PICK THEIR"
10830 PRINT@384,"FIRST AND SECOND NUMBER,WHICH"
10840 GOSUB 12000
10850 PRINT"REPRESENTS TWO CARDS.IF THESE"
10860 PRINT@32,"TWO CARDS HAVE IDENTICAL SYMBOLS"
10870 PRINT@64,"THE CARDS WILL STAY DISPLAYED"
10880 PRINT@96,"AND THE COMPUTER WILL ALLOCATE"
10890 PRINT@128,"A POINT TO THE PERSON WHO SELEC-"
10900 PRINT@160,"-TED THEM,AS WELL AS GIVING THAT"
10910 PRINT@192,"PERSON ANOTHER TURN.IF THE TWO"
10920 PRINT@224,"ARE NOT THE SAME THE CARDS WILL"
10940 PRINT@256,"TURN OVER TO THEIR ORIGINAL NUM-"
10950 PRINT@288,"BER.THE IDEA OF THE GAME IS TO"
10960 PRINT@320,"REMEMBER WHAT SYMBOLS ARE UNDER"
10970 PRINT@352,"EACH CARD, SO AS TO ASSIST IN"
10980 PRINT@384,"SELECTING A MATCHED PAIR OF"
10990 GOSUB12000
11000 PRINT"CARDS LATER ON.THE PLAYER WITH"
11010 PRINT@32,"THE GREATEST NUMBER OF POINTS AT"
11020 PRINT@64,"THE END OF THE GAME WINS."
11030 PRINT@96,"ONE PLAYER"
11040 PRINT@128,"   IF ONLY ONE PLAYER PLAYS,THE"
11050 PRINT@160,"COMPUTER SHOWS HOW MANY ATTEMPTS"
11060 PRINT@192,"WERE MADE TO DISPLAY ALL THE PA-"
11070 PRINT@224,"IRS OF SYMBOLS.NOTE WHEN A NUMB-"
11080 PRINT@256,"ER BETWEEN 1 & 9 IS REQUIRED,"
11090 PRINT@288,"SELECT A ZERO FIRST.FOR EXAMPLE 01,05,09.
11420 PRINT@352,"PRESS (I) TO REPEAT INSTRUCTIONS"
11440 AB=1
12000 PRINT@416,"     PRESS SPACE TO CONTINUE"
12020 F$=INKEY$
12040 H$=INKEY$:IF H$="" GOTO 12020
12060 IF H$=" " GOTO 12080
12070 IF AB=1 AND H$="I" GOTO 10620
12075 GOTO 12020
12080 CLS:RETURN
12100 IF W=2 AND Z>Y PRINT@352,"  ";A$;"  YOU WON      "
12120 IF W=2 AND Y>Z PRINT@352,"  ";B$;"  YOU WON      "
12125 IF W=2 AND Y=Z PRINT@352,"    YOU BOTH WIN IT'S A DRAW   "
12130 IF W=2 PRINT@418,"      "
12140 IF W=1 PRINT@352,"                              "
12155 IF W=1PRINT@418,B$;"                "
12160 IF W=1PRINT@448," YOU FINISHED IN";AC;"ATTEMPTS"
12220 PRINT@384," █PRESS SPACE FOR A NEW GAME█  "
12230 SOUND 20,1;10,1;20,1;10,1;20,1;10,1
12240 F$=INKEY$
12260 H$=INKEY$:IF H$=""GOTO 12240
12280 IF H$=" "THEN RUN ELSE 12240
12300 SOUND 31,1;29,1;27,1;25,1;23,1;21,1;19,1;17,1;15,1;13,1
12340 SOUND 11,1;9,1;7,1;5,1;3,1;1,1
12360 RETURN
```

SUPER SNAKE TRAPPER

Super Snake Trapper is a two-player game of skill. You have to move your snake around the screen without hitting the walls, the other snake or yourself. If you do hit something your score goes down. If it reaches zero you lose. If you are about to crash you can press the fire button and you will be put somewhere randomly on the screen, but the computer might land you on something and you will lose points. Joysticks are required to play this game.

Because of my printer's limitations I could not include graphics symbols in the program print-out so here is a list of them:

line 15
"Shift A,Shift Y (x21),Shift S"

line 20
"Shift I,Ctrl:,SUPER SNAKE TRAPPER,Ctrl:,Shift"

line 25
"Shift D,Shift T(x21),Shift F"

line 30
"Shift J,BY ROBERT DUNCAN, Shift J"

line 55
"Shift J"

line 60
"Shift J"

line 700
"Shift J(x2)""Shift J(x2)"

line 710
"Shift J(x2)""Shift J(x2)"

R. Duncan
Crafers SA

```
5 POKE 30744,1:CLS
10 PRINT@292,"HIT ANY KEY TO CONTINUE"
15 COLOR RND(6)+2:PRINT@36,"                      "
20 PRINT@68," SUPER↖ SNAKE ↑TRAPPER "
25 PRINT@100,"        2 spaces        "
30 PRINT@167," BY ROBERT DUNCAN "
35 PRINT@203,"(19/12/84)"
40 PRINT@292,"                         ":SOUND 15,1
45 K$=INKEY$:IF INKEY$=""THEN 10
50 PRINT@356,"TYPE IN PLAYER 1'S NAME"
55 COLOR 3:PRINT@423,;:INPUT S$:PRINT@423," "
60 PRINT@371,"2":COLOR 4:PRINT@455,;:INPUT T$:PRINT@455," "
70 PRINT@294,"PRESS <<S>> TO START"
75 SOUND 15,1:SOUND 16,1
80 K$=INKEY$:IF INKEY$<>"S"THEN 75
100 US=37500:VS=37500
105 CLS:MODE(1):COLOR 2:FOR A=0 TO 127:SET(A,0):SET(A,63):NEXT
106 AZ=3750:FOR A=1 TO 62:SET(0,A):SET(127,A):NEXT
110 FOR A=1 TO 62:SET(0,A):SET(127,A):NEXT
115 W=17:X=17:Y=110:Z=17:W1=1:X1=0:Y1=-1:Z1=0
120 AZ=AZ-1:COLOR 3:U=(INP(43)AND 31)
124 IFU=15 THEN X=RND(62):W=RND(126)
125 IF U=30 THEN W1=0:X1=-1
130 IF U=29 THEN W1=0:X1=1
135 IF U=27 THEN W1=-1:X1=0
140 IF U=23 THEN W1=1:X1=0
141 IF U=26 THEN W1=-1:X1=-1
142 IF U=25 THEN W1=-1:X1=1
143 IF U=22 THEN W1=1:X1=-1
144 IF U=21 THEN W1=1:X1=1
145 W=W+W1:X=X+X1
150 IF W=Y AND X=Z THEN 300
155 IF POINT(W,X)=2:US=US-AZ:N$=S$:GOTO 400 ELSE160
160 IF POINT(W,X)=3:US=US-AZ:N$=S$:GOTO 500 ELSE 165
165 IF POINT(W,X)=4:US=US-AZ:N$=S$:GOTO 600 ELSE 170
170 SET(W,X)
200 COLOR 4:V=(INP(46)AND 31)
204 IF V=15 THEN Y=RND(126):Z=RND(62)
205 IF V=30 THEN Y1=0:Z1=-1
210 IF V=29 THEN Y1=0:Z1=1
215 IF V=27 THEN Y1=-1:Z1=0
220 IF V=23 THEN Y1=1:Z1=0
221 IF V=26 THEN Y1=-1:Z1=-1
222 IF V=25 THEN Y1=-1:Z1=1
223 IF V=22 THEN Y1=1:Z1=-1
224 IF V=21 THEN Y1=1:Z1=1
225 Y=Y+Y1:Z=Z+Z1
230 IF W=Y AND X=Z THEN 300
235 IF POINT(Y,Z)=2:VS=VS-AZ:N$=T$:GOTO 400 ELSE 240
240 IF POINT(Y,Z)=4:VS=VS-AZ:N$=T$:GOTO 500 ELSE 245
245 IF POINT(Y,Z)=3:VS=VS-AZ:N$=T$:GOTO 600 ELSE 250
250 SET(Y,Z)
255 GOTO 120
300 MODE(0):CLS:VS=VS-AZ:US=US-AZ
325 PRINT@38,"YOU HAD A COLLISSION"
350 GOTO 700
400 MODE(0):CLS:PRINT@32,N$;",YOU HIT THE WALL":GOTO 700
500 MODE(0):CLS:PRINT@32,N$;",YOU HIT YOUR OWN TAIL":GOTO 700
600 MODE(0):CLS:PRINT@32,N$;",YOU HIT THE OTHER SNAKE":GOTO 700
700 COLOR 3:PRINT@203,"  ";:PRINTUSING"#####,";US;:PRINT"  "
710 COLOR 4:PRINT@267,"  ";:PRINTUSING"#####,";VS;:PRINT"  "
720 IF VS<1 AND US<1 THEN PRINT@362,"IT IS A DRAW":GOTO 760
730 IF US<1 THEN PRINT@362,;T$;" WON":GOTO 760
740 IF VS<1 THEN PRINT@362,;S$;" WON":GOTO 760
750 FOR A=0 TO 3000:NEXT:GOTO 105
760 PRINT@455,"ANOTHER GAME (Y/N)?"
770 K$=INKEY$:I$=INKEY$:IF I$="Y"THEN RUN ELSE IF I$<>"N"THEN770
```

WORM

The idea of this game is to move from one side of the screen to the other without hitting the dots, the walls, or your own tail. If you do manage to reach the other side, bonus points are awarded before proceeding to a new frame.

I. Thompson
Collaroy Plateau NSW

```
0 '***********************
1 '*       W O R M       *
2 '*   FOR UNEXPANDED    *
3 '*     VZ-200/300      *
4 '*  BY IAN THOMPSON    *
5 '***********************
8 '
9 GOSUB 1000
10 CLS:POKE 30744,0
30 U$="Q":O$="A":L$="M":R$=","
35 Z=1
40 SC=0
45 X=10:Y=5:Y1=1:X1=0
50 MODE(1):COLOR 3,1:REM - CHANGE TO COLOR 3,0 FOR B&W MONITOR
60 FOR A=1 TO 127:SET(A,0):SET(A,63):NEXT
70 FOR A=0 TO 63:SET(0,A):SET(127,A):NEXT
80 FOR A=111 TO 127:COLOR 4:SET(A,63):NEXT
85 COLOR 3
90 FOR A=1 TO 45:SET(63,A):SET(95,A):SET(79,A+18)
100 SET(47,A+18):SET(24,A):SET(111,A+18):NEXT A
110 A$=INKEY$:IF A$=R$ THEN X1=1:Y1=0
120 IF A$=O$ THEN X1=0:Y1=1
130 IF A$=L$ THEN X1=-1:Y1=0
140 IF A$=U$ THEN X1=0:Y1=-1
170 X=X+X1:Y=Y+Y1:IF POINT(X,Y)=2 THEN 300
180 IF POINT(X,Y)=4 THEN 380
190 IF POINT(X,Y)=3 THEN 350
200 SET(X,Y)
210 SC=SC+1
220 COLOR 2:SET(RND(127),RND(63))
290 GOTO 110
300 SOUND 25,6
302 CLS:PRINT@96,"FRAME NO.";Z:PRINT
303 PRINT"YOU HAVE BEEN DESTROYED"
305 PRINT
310 PRINT"SCORE:";SC
312 PRINT:IF SC>=HSC THEN HSC=SC
315 PRINT"HIGHEST SCORE:";HSC
320 PRINT:INPUT"ANOTHER FRAME (Y/N)";A$:IFA$="Y"THENZ=Z+1:GOTO40
330 IF A$="N" THEN CLS:PRINT @ 237,"BYE!":END
340 GOTO 300
350 SOUND 25,6:CLS:PRINT@32,FRAME NO."Z;
352 PRINT:PRINT
355 PRINT"YOU HIT YOUR OWN TAIL  "
360 PRINT"YOU HAVE BEEN DESTROYED":PRINT:GOTO310
380 CLS:SOUND30,7:PRINT:PRINT"500 POINTS BONUS":SC=SC+500:FORA=1TO 500
390 NEXT A:GOTO 45
1000 CLS:PRINT@75," W O R M "
1010 PRINT@225,"IAN THOMPSON,COLLAROY PLATEAU"
1020 FOR I=1 TO 1000:NEXT I
1030 CLS:PRINT"THE IDEA OF THIS GAME IS TO MOVE";
1035 CLS:PRINT"FROM ONE SIDE OF THE SCREEN TO"
1040 PRINT"THE OTHER,AND INTO THE RED LINE."
1050 PRINT"ONCE YOU HIT THE RED LINE YOU"
1060 PRINT"GET 500 POINTS BONUS AND YOU"
1070 PRINT"START A SECOND FRAME."
1080 PRINT:PRINT"THE DANGERS ARE THE WALLS, THE"
1090 PRINT"DOTS, AND YOUR OWN TAIL."
1100 PRINT@482,"PRESS <RETURN> TO CONTINUE";
1105 INPUT A$
1110 CLS:PRINT@72,"DIRECTION KEYS"
1120 PRINT@139,"Q = UP"
1130 PRINT@203,"A = DOWN"
1140 PRINT@267,"M = LEFT"
1150 PRINT@331,", = RIGHT"
1160 PRINT@482,"PRESS <RETURN> TO START";
1170 INPUT A$
1180 RETURN
```

DOGFIGHT

You are in a plane and must endeavour to shoot down another plane. Using the arrow keys, you position the target plane in the dead center of the sights. You shoot with the Z key.

I. Thompson
Collaroy Plateau NSW

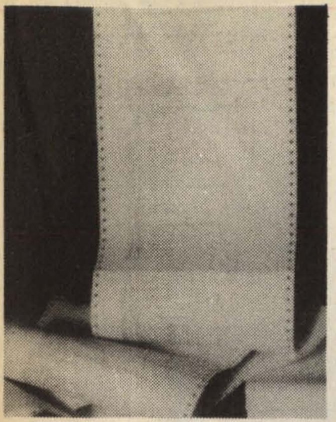
```
0  ***************************
1 '*   D O G   F I G H T     *
2 '*      FOR 8K VZ-200      *
3 '*   BY IAN A.THOMPSON     *
4 '***************************
5 CLS:SOUND 25,6:PRINT@134," D O G   F I G H T "
6 PRINT@225,"IAN THOMPSON,COLLAROY PLATEAU"
7 PRINT@449,"INSTRUCTIONS (Y/N)";
8 INPUT AN$
9 IF LEFT$(AN$,1)="Y" THEN 1500 ELSE 10
10 SC=0:ML=0
20 MODE(1):COLOR 3
30 FOR K=0 TO 127
40 IF K>63 THEN 60
50 IF K>24 AND K<40 THEN SET(50,K):SET(78,K) ELSE SET(64,K)
60 IF K>49 AND K<79 THEN SET(K,25):SET(K,39) ELSE SET(K,32)
70 NEXT:X=RND(123)+1:Y=63:COLOR 4:GOTO 140
110 RESET(A,4):RESET(A+1,4):RESET(A-1,4)
120 RESET(A+2,4):RESET(A-2,4):RESET(A,Y-1)
130 Y=Y-1:IF Y=1 THEN 200
140 SET(X,Y):SET(X+1,Y):SET(X-1,Y)
150 SET(X+2,Y):SET(X-2,Y):SET(X,Y-1)
152 RESET(X,Y):RESET(X+1,Y):RESET(X-1,Y)
154 RESET(X+2,Y):RESET(X-2,Y):RESET(X,Y-1)
160 GOSUB 1000
170 GOTO 110
200 ML=ML+1:IF ML=10 THEN 210 ELSE 20
210 CLS
220 PRINT:PRINT"YOU SHOT DOWN";SC,"OUT OF 10 PLANES"
230 PRINT:PRINT:PRINT"ANOTHER GO";
240 INPUT AN$
250 IF LEFT$(AN$,1)="Y" THEN RUN ELSE 260
260 CLS:PRINT"THANKS FOR THE GAME, BYE!":END
1000 A=X
1010 IF INKEY$="," THEN 1050
1020 IF INKEY$="M" THEN 1070
1030 IF INKEY$="Z" THEN 1100
1040 RETURN
1050 X=X+2:IF X>125 THEN X=125
1060 RETURN
1070 X=X-2:IF X<2 THEN X=2
1080 RETURN
1100 SOUND 15,2
1110 FOR K=34 TO 64 STEP 2
1120 SET(K,96-K):SET(127-K,96-K)
1130 NEXT
1140 FOR K=34 TO 64 STEP 2
1150 RESET(K,96-K):RESET(127-K,96-K)
1160 NEXT
1170 IF X<67 AND X>61 AND Y<34 AND Y>30 THEN 1200
1180 SOUND 1,2
1190 RETURN
1200 SOUND 29,2;31,2
1205 FOR T=1 TO 3
1210 FOR K=1 TO 20
1220 SET(RND(10)+59,RND(10)+27)
1230 NEXT
1240 FOR K=1 TO 30
1250 SET(RND(30)+49,RND(30)+17)
1260 NEXT
1265 NEXT
1270 SC=SC+1:ML=ML+1:IF ML=10 THEN 210
1280 GOTO 20
1500 CLS:PRINT"THE GAME IS CALLED DOG-FIGHT, "
1510 PRINT"AND AS THE NAME SUGGESTS,YOU AREIN A PLANE AND";
1520 PRINT" MUST ENDEAVOUR TOSHOOT DOWN ANOTHER PLANE."
1530 PRINT"SIGHTS APPEAR ON THE SCREEN, ANDYOU MUST MOVE YOUR";
1540 PRINT" PLANE (USING THE LEFT AND RIGHT ARROW KEYS)  TO ";
1550 PRINT"GET THE TARGET PLANE DEAD IN THE CENTRE OF THE ";
1560 PRINT" SIGHTS."
1570 PRINT"YOU SHOOT WITH THE 'Z'KEY."
1580 PRINT"YOU'LL BE GIVEN 10 PLANES TO "
1590 PRINT"SHOOT DOWN, AND AT THE END TOLD"
1600 PRINT"HOW MANY YOU MANAGED TO GET. YOU";
1610 PRINT"WILL THEN BE OFFERED A NEW GAME.";
1620 PRINT" PRESS <S> TO START THE GAME."
1630 IF INKEY$<>"S" THEN 1630
1640 IF INKEY$="S" THEN 10
```

BEZERK

Bezerk is a games program written for the VZ200/300. The idea is that when in playing mode you move a dot around the screen running through the red dots. If you do not reach the red dots in time and you touch them they will turn yellow and you *die!* Do not touch the walls or anything yellow. At the end of the game you will be given a bonus point for every red dot you ran over.

R. Banks & M. Saunders
Mackay Qld

```
0 DATA243,1,100,0,33,20,0,205,92,52,201:CLEAR200
1 FORI=31058TO31068:READA:POKEI,A:NEXT:POKE30862,82:POKE30863,121
10 DATAQ,A,K,L:FORX=1TO4:READA$(X):NEXT
11 DATA18,4,14,4,13,2,11,2,13,2,14,3,11,7,8,2,13,2,11,2,8,2
12 DATA11,1,11,1,13,2,8,2,13,2,11,2,8,2,11,1,11,1,13,2
14 DATA13,2,18,2,16,2,13,2,16,1,16,1,18,2,13,2,18,2,16,2,13,2
15 DATA16,1,16,1,18,2,15,2,20,2,18,2,15,2,18,1,18,2,20,2
17 DATA13,2,18,2,16,2,13,2,16,1,16,1,18,2
18 DATA8,2,13,2,11,2,8,2,11,1,11,1,13,2
50 '
52 DIMSD(56),SF(56):DIMH(100):FORI=1TO56:READSF(I),SD(I):NEXT
60 FORI=1TO10:FORY=1TO5:READA(I,Y):NEXT:NEXT
69 CLS:PRINTTAB(13)"[illegible]":HP=1
70 PRINT@32,"[C]HANGE KEYS OR [S]TART GAME":SP=8:GOTO5000
71 GOSUB2000:IFA$="S"THEN200ELSEIFA$="I"THEN7000
72 IFA$<>"C"THEN71ELSE1000
73 PRINT@96,"UP - "A$(1):PRINT"DOWN - "A$(2):PRINT"LEFT - "A$(3)
74 PRINT"RIGHT - "A$(4):GOTO71
200 X=USR(0):MODE(1):FORX=29TO96:SET(X,5):SET(X,42):NEXT
210 FORY=5TO42:SET(29,Y):SET(28,Y):SET(96,Y):SET(97,Y):NEXT:WL=0
211 GOSUB3900
310 TD=0:X=62:Y=22:IY=0:IX=1:P(0,0)=0:P(0,1)=22:PT=0:T=-1:PH=0
311 DC=0:TN=RND(40):GOTO510
410 XR=RND(16)+7:YR=RND(37)+5:XY=32*YR+XR+28672
420 IFPEEK(XY)>0ORPEEK(XY+1)>0THEN410
430 V=RND(9):T=INT(400/V):TC=0:TN=-1:POKEXY,255
510 A$=INKEY$:IFA$=""THEN520ELSEIFA$=A$(1)THENIY=-1:IX=0:GOTO520
511 IFA$=A$(2)THENIY=1:IX=0:GOTO520
512 IFA$=A$(3)THENIY=0:IX=-1:GOTO520
513 IFA$=A$(4)THENIY=0:IX=1
520 X=X+IX:Y=Y+IY:IFPOINT(X,Y)<>1THEN570
521 POKE31060,30:POKE31063,1:S=USR(0)
530 RESET(PT,PH):SET(X,Y):PT=X:PH=Y
550 TC=TC+1:IFTC=TTHEN960
560 TD=TD+1:IFTD=TNTHEN410ELSE510
570 IFPOINT(X,Y)=4THEN910ELSEG=G+1:WT=WT+WL
580 FORX=1TOHP:WL=WL+1:GOSUB3900:POKEH(X),0:S=USR(0):NEXT
590 FORI=1TO7:SOUNDSF(I),SD(I):NEXT
610 IFX<29ORX>95ORY<6ORY>41THENM$="HIT THE WALL":GOTO620
611 M$="HIT A BLOCK"
620 CLS:PRINT"YOU HAVE "M$:PRINT"* [illegible] [illegible] *"
700 PRINT"THIS WAS GAME NUMBER"G
710 PRINT"YOUR SCORE WAS-"WL:PRINT"THE AVERAGE SO FAR-"INT(WT/G)
730 PRINT"THE PREVIOUS BEST WAS"W1:IFWL>W1THENW1=WL
736 POKE30777,25:INPUT"ENTER YOUR NAME";SC$:POKE30744,RND(2)-1
737 SC$=LEFT$(SC$,13):SC$=SC$+
740 CLS:POKE30777,25:GOTO69
910 POKEXY,85:DC=V:TN=RND(40)+V:TD=0:T=-1:XR=1:WL=WL+V
911 POKE31060,40:FORI=1TO2:FORU=1TO20STEP3:POKE31063,U:S=USR(0)
912 NEXT:NEXT:GOSUB3900:H(HP)=XY:HP=HP+1:GOTO530
960 POKEXY,85:XR=1:TN=RND(40):TD=0:T=-1:GOTO510
1000 PRINT@96,"[illegible]":GOSUB2000:A$(1)=A$:PRINT@96,"UP - "A$(1)
1010 PRINT@128,"[illegible]":GOSUB2000:A$(2)=A$:PRINT@128,"DOWN - "A$(2)
1020 PRINT@160,"[illegible]":GOSUB2000:A$(3)=A$:PRINT@160,"LEFT - "A$(3)
1030 PRINT@192,"[illegible]":GOSUB2000:A$(4)=A$:PRINT@192,"RIGHT - "A$(4)
1040 GOTO71
2000 SOUNDSF(SP),SD(SP):A$=INKEY$
2010 SP=SP+1:IFSP>56THENSP=8
2011 IFA$=""THENB$="":GOTO2000
2012 IFA$=B$THEN2000ELSEB$=A$:RETURN
2020 GOSUB2000:IFINKEY$="Y"ORINKEY$="N"THEN74ELSENEXT:GOTO74
3900 SD$=STR$(WL):SD$=RIGHT$(SD$,LEN(SD$)-1):B=28688
3901 FORI=LEN(SD$)TO1STEP-1
3902 IFMID$(SD$,I,1)<>MID$(SE$,I,1)THEN3912
3903 B=B-1:NEXT:SE$=SD$:RETURN
3912 C=VAL(MID$(SD$,I,1))+1
3915 FORU=0TO4:POKEB+32*U,A(C,U+1):NEXT:GOTO3903
4000 DATA252,204,204,204,252
4010 DATA48,240,48,48,252
4020 DATA252,12,252,192,252
4030 DATA252,12,60,12,252
4040 DATA192,192,204,252,12
4050 DATA252,192,252,12,252
4060 DATA252,192,252,204,252
4070 DATA252,12,12,12,12
4080 DATA252,204,252,204,252
4090 DATA252,204,252,12,252
5000 PRINT"OR [I] FOR INSTRUCTIONS"
5001 PRINTTAB(10)"[illegible]":FORI=1TO10
```

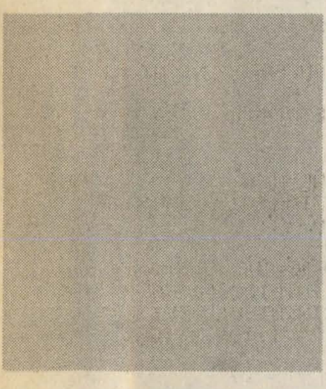


```
5002 PRINTTAB(10)"█                              █":NEXT
5003 PRINTTAB(10)"▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀▀";
5010 FORI=0TO9:IFSC$(I+1)=""THENI=12:GOTO5030
5020 PRINT@139+32*I,SC$(I+1)SC(I+1)
5030 NEXT:GOTO73
6000 FORI=1TO10:IFWL=>SC(I)THEN6010ELSENEXT:GOTO740
6010 FORU=10TOISTEP-1:SC$(U)=SC$(U-1):SC(U)=SC(U-1):NEXT
6020 SC$(I)=SC$:SC(I)=WL:GOTO740
7000 CLS:PRINT@7,"[illegible]"
7010 PRINT"THE OBJECT OF THIS GAME IS TO   RUN OVER THE RED";
7020 PRINT" RECTANGLES.    WHEN YOU RUN OVER ONE, IT WILL"
7030 PRINT"TURN YELLOW. THE DOTS WILL ALSO TURN YELLOW IF YOU";
7040 PRINT" DON'T RUN    OVER THEM IN TIME."
7050 PRINT"IF YOU TOUCH ANYTHING YELLOW,   YOU WILL DIE!"
7060 PRINT"EACH RED DOT WILL GIVE YOU      BETWEEN 1 AND 9";
7070 PRINT" POINTS. WHEN YOUHAVE DIED YOU WILL BE GIVEN A
7080 PRINT"BONUS FOR EACH DOT YOU RAN OVER."
7090 PRINT"PRESS [illegible]"
7100 GOSUB2000:IFA$=CHR$(13)THEN69ELSE7100
```

ARGGGGH!

This exciting program written for the VZ200/300 requires a good deal of skill. Weave yourself in and out of the yellow dots, avoiding them and the walls, until a hole appears in the top middle of the screen. You are only allowed to go back on yourself a few times, so beware.

R. Banks & M. Saunders
Mackay QLD



```
1 COLOR2
2 POKE30862,82:POKE30863,121:POKE31059,243:POKE31059,201
3 PD%=50
4 PH%=990
5 PX%=63:PY%=34
6 EM%=5:BT%=50-PD%
10 MODE(1)
20 FORA%=0TO127:SET(A%,5):SET(A%,63):NEXT
30 FORA%=5TO63:SET(0,A%):SET(127,A%):NEXT
40 COLOR3:A$=INKEY$:SC=SC+6-EM%:IFA$=""THEN50
45 PL%=0:PU%=0
50 IFA$="W"THENPU%=-1
60 IFA$="S"THENPU%=1
70 IFA$="K"THENPL%=-1
80 IFA$="L"THENPL%=1
90 PX%=PX%+PL%:PY%=PY%+PU%
95 IFEM%<0THENEM%=0
100 IFPOINT(PX%,PY%)=3THENGOTO1100
105 IFPOINT(PX%,PY%)<>1THENPRINT"YOUR SCORE IS"SC:END
110 SET(PX%,PY%):COLOR2:EX%=RND(126):EY%=RND(57)+5
115 IFPY%<5THENPRINT"YOUR SCORE IS"SC"SO FAR...":PD=PD-5:GOTO4
120 EC%=EC%+1:IFEC%<EM%THEN40
125 EC%=0
126 IFRND(1000)>PH%THENEM%=EM%-1:PH%=PH%-PD%
127 IFEM%=0THENRESET(62,5):RESET(63,5):RESET(64,5)
130 IFPOINT(EX%,EY%)<>1THENRESET(EX%,EY%)ELSESET(EX%,EY%)
140 GOTO40
1000 FORI=1TO1000:NEXT:GOTO4
1100 BT%=BT%+1:IFBT%>50THEN105
1105 SC=SC-BT%
1106 IFSC<0THENSC=0
1110 GOTO110
```

ENCODE/ DECODE

Encode/Decode is an encoding and decoding program written for the VZ200/300. When run it will ask you to input a word or secret message. After typing in your secret message, on the line below will appear the message in code form. It will then ask you to input a secret message in jumbled form which it will then decode.

R. Banks & M. Saunders
Mackay Qld

```
10 INPUT"ENTER WORD";A$:PRINTLEFT$(A$,1);:A=ASC(A$)
20 FORI=2TOLEN(A$):B=ASC(MID$(A$,I,1))+(A-64):IFB>90THENB=B-26
60 PRINTCHR$(B);:A=B:NEXT:PRINT:GOTO100
100 INPUT"ENTER WORD";A$:PRINTLEFT$(A$,1);:A=ASC(A$)
110 FORI=2TOLEN(A$):B=ASC(MID$(A$,I,1))-(A-64):IFB<65THENB=B+26
150 PRINTCHR$(B);:A=ASC(MID$(A$,I,1)):NEXT:PRINT:GOTO10
```

RESTORE FILE

This is probably the most useful utility program ever made for the VZ200/300. After running out this program and typing in new, start typing in a program. Now type in new to erase the memory; type in PRINT USR(0) and *hey presto* your program is back in memory. This program is excellent if you're the type of person who gets angry with their programs.

R. Banks & M. Saunders
Mackay Qld

```
1 I=31058
10 DATA21,E9,7A,36,01,E5,CD,F8,1A,E1,7E,FE,00,28,0A,23,3E,FF,BC
20 DATA20,F5,BD,C8,20,F1,23,7E,FE,00,20,EB,23,7E,FE,00,20,E5,23
30 DATA22,F9,78,3E,00,FE,00,CD,7A,1E,C3,66,00,END
40 READA$:IFA$="END"THENPOKE30862,82:POKE30863,121:END
50 A=ASC(A$)-48:IFA>9THENA=A-7
60 B=ASC(RIGHT$(A$,1))-48:IFB>9THENB=B-7
70 POKEI,A*16+B:I=I+1:GOTO40
```

CATCH

A lot of skill and patience is required to use this program. You must trap the other moving dot into one spot on the screen. To do so use the following commands –

W — up
S — down
K — left
L — right
E, R — to turn yourself visible and invisible.

Please note that the designers of this program takes no responsibility if you hit your computer through frustration and anger!

R. Banks & M. Saunders
Mackay Qld

```
1 X%=USR(0)
2 MODE(1)
3 COLOR3:FORA%=0TO127:SET(A%,0):SET(A%,63):NEXT:FORA%=0TO63
4 SET(0,A%):SET(127,A%):NEXT
5 B%=3:X1%=RND(126):Y1%=RND(62)
1000 X%=RND(126):Y%=RND(62)
1001 A%=RND(4):FORGG%=1TORND(20)
1002 GOTO4000
1005 G%=X%:H%=Y%
1010
1020 X%=X%+1:GOTO1100
1030 X%=X%-1:GOTO1100
1040 Y%=Y%+1:GOTO1100
1050 Y%=Y%-1
1100 IFPOINT(X%,Y%)=3Y%=H%:X%=G%:GOTO1001
1110 COLOR3:SET(X%,Y%):COLOR2:SET(X%,Y%):NEXT:GOTO1001
4000 XS%=X1%:YS%=Y1%:IF(PEEK(26624)OR192)=255THEN4070
4010 K%=PEEK(26751)OR192:IFK%=255THEN4040
4020 IF(K%AND8)=0X1%=X1%-1:GOTO4060
4030 IF(K%AND2)=0X1%=X1%+1:GOTO4060
4040 IF(PEEK(26878)OR192)=255THEN4050ELSEK%=PEEK(26878)OR192
4041 IF(K%AND2)=0Y1%=Y1%-1:GOTO4060
4042 IF(K%AND32)=0B%=1:GOTO4060
4043 IF(K%AND1)=0B%=3:GOTO4060
4050 IF(PEEK(26877)AND2)=0Y1%=Y1%+1
4060 IFX1%<1ORX1%>126ORY1%<1ORY1%>62X1%=XS%:Y1%=YS%
4070 IFB%=1THEN4090
4080 IFPOINT(X1%,Y1%)=2X1%=XS%:Y1%=YS%
4090 COLOR2:SET(X1%,Y1%):COLORB%:SET(X1%,Y1%):GOTO1005
5000 DATA33,0,0,17,0,112,1,0,1,237,176,201
6000 FORA%=0TO16383:IFPEEK(A%)=102THEN6020
6010 NEXT:END
6020 IFPEEK(A%+1)=55THENPRINTA%
6030 GOTO6010
```

SHARP

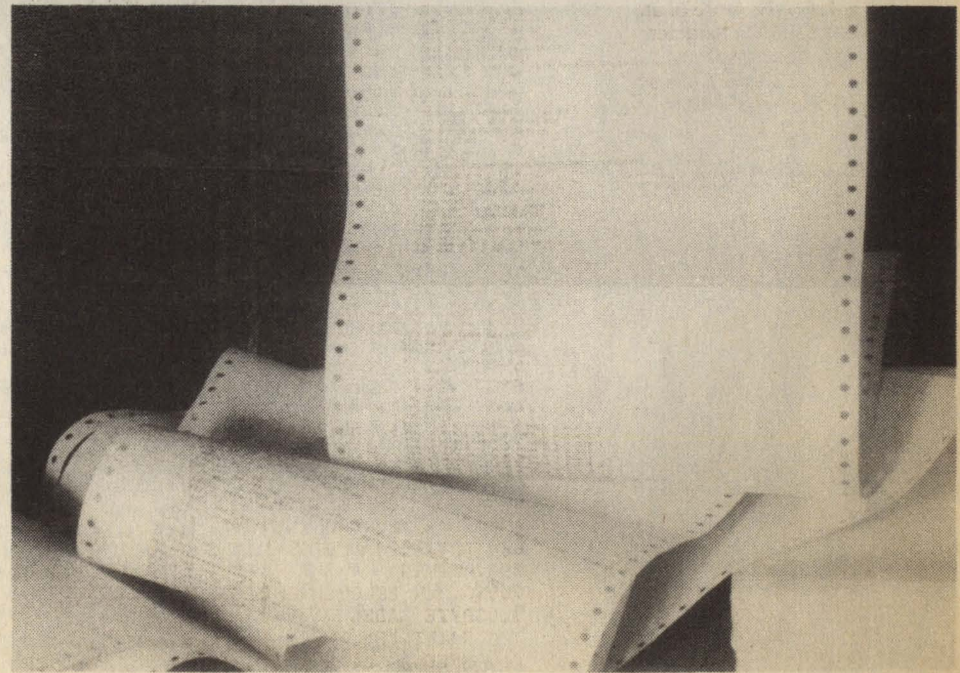
GOBBLER

The aim of the game is to steer your man around the screen using the cursor control keys. For each dot that is gobbled you score one point. You score five points for each square gobbled. A round ends every time you score 200 points. If you hit a mine the game is over.

Steve Molloy
Mittagong NSW

```
1  REM *********************
2  REM * G O B B L E R     *
3  REM * by steve molloy   *
4  REM * for the sharP mz-700 *
5  REM *********************
6  GOSUB66:GOSUB94
7  GOSUB32
8  GOSUB36
9  X=17:Y=12
10  CURSORX,Y:PRINTC$:GOSUB24
11  CURSOR1,23:PRINT"Score:  ";S
12  GETA$IFA$=""GOTO12
13  IFA$=CHR$(20)GOSUB18:X=X-1:GOTO39
14  IFA$=CHR$(19)GOSUB18:X=X+1:GOTO42
15  IFA$=CHR$(18)GOSUB18:Y=Y-1:GOTO45
16  IFA$=CHR$(17)GOSUB18:Y=Y+1:GOTO48
17  GOTO10
18  CURSORX,Y:PRINTT$:RETURN
19  IFP(X,Y)=2THENS=S+1
20  IFP(X,Y)=5THENS=S+5
21  IFS>=200*RGOTO63
22  CURSOR1,23:PRINT"Score:  ";S
23  P(X,Y)=0:RETURN
24  IFRND(1)<OBGOTO26
25  GOSUB101:CURSORE,F:PRINTB$:P(E,F)=1
26  IFRND(1)>.6GOTO30
27  GOSUB101:CURSORE,F:PRINTD$:P(E,F)=2:R
ETURN
28  IF(X<2)+(X>36)+(Y<2)+(Y>21)GOTO52
29  RETURN
30  IFRND(1)>(.05+R/50)THENRETURN
31  GOSUB101:CURSORE,F:COLOR,,0:PRINTE$:P
(E,F)=5:RETURN
32  COLOR,,1,6:CLS:C$=CHR$(99):D$=CHR$(46
):B$=CHR$(241):T$="  ":S=0:R=1:SS=201:OB=
.9:E$=CHR$(112)
33  CURSOR 10,4:PRINT"G O B B L E R":CURS
OR6,8:PRINT"Just getting ready...."
34  DIMP(37,22)
35  FORX=2TO36:FORY=2TO21:P(X,Y)=2:NEXT:N
EXT:CLS:RETURN
36  FORZ=1TO21:CURSOR1,Z:PRINT"■..........
.........................■":NEXT
37  CURSOR1,0:PRINT"GOBBLER":CURSOR10,0:P
RINT"Round";R
38  FORZ=1TO37:CURSORZ,1:PRINT"■":CURSORZ
,22:PRINT"■":NEXT:RETURN
39  GOSUB61:GOSUB62
40  GETA$:IF(A$=CHR$(17))+(A$=CHR$(18))+(
A$=CHR$(19))GOTO13
41  GOSUB18:GOSUB19:X=X-1:GOTO39
42  GOSUB61:GOSUB62
43  GETA$:IF(A$=CHR$(17))+(A$=CHR$(18))+(
A$=CHR$(20))GOTO13
44  GOSUB18:GOSUB19:X=X+1:GOTO42
45  GOSUB61:GOSUB62
46  GETA$:IF(A$=CHR$(17))+(A$=CHR$(19))+(
A$=CHR$(20))GOTO13
47  GOSUB18:GOSUB19:Y=Y-1:GOTO45
48  GOSUB61:GOSUB62
49  GETA$:IF(A$=CHR$(18))+(A$=CHR$(19))+(
A$=CHR$(20))GOTO13
50  GOSUB18:GOSUB19:Y=Y+1:GOTO48
51  IFP(X,Y)<>1THENRETURN
52  CLS:CURSOR10,5:PRINT"OUCH !!"
53  CURSOR4,9:PRINT"Your score was ";S
54  IFS>HSTHENHS=S
55  CURSOR4,11:PRINT"The high-score is ";
HS
56  CURSOR8,16:PRINT"Another go ?"
57  GETA$:IFA$="Y"GOTO7
58  IFA$="N"THENCLS:END
59  GOTO56
60  CURSORX,Y:PRINTC$:RETURN
61  GOSUB51:GOSUB24:GOSUB28:GOSUB60:RETUR
N
62  FORZ=0TOSS:NEXT:RETURN
63  CLS:R=R+1:SS=SS-30:IFSS<50THENSS=9
64  OB=OB-R/50:IFOB<.2THENOB=.1
65  GOSUB33:GOTO8
66  COLOR,,,7:CLS:FORC=6TO0STEP-1:COLOR,,
C
67  FORY=6TO10STEP4:FORX=0TO3:CURSORX,Y:P
RINT"■":NEXT
```

```
68  FORX=6TO9:CURSORX,Y:PRINT"■":NEXT
69  FORX=12TO15:CURSORX,Y:PRINT"■":NEXT
70  FORX=18TO21:CURSORX,Y:PRINT"■":NEXT
71  CURSOR24,Y:PRINT"■"
72  FORX=30TO33:CURSORX,Y:PRINT"■":NEXT
73  FORX=36TO39:CURSORX,6:PRINT"■":NEXT:N
EXT
74  CURSOR36,10:PRINT"■"
75  FORX=0TO39STEP6:CURSORX,7:PRINT"■"
76  CURSORX,8:PRINT"■":CURSORX,9:PRINT"■"
:NEXT
77  FORY=7TO9:CURSOR9,Y:PRINT"■":NEXT
78  FORY=7TO8:CURSOR39,Y:PRINT"■":NEXT
79  CURSOR3,9:PRINT"■":FORX=2TO4:CURSORX,
8:PRINT"■":NEXT
80  FORY=25TO27:CURSORY,10:PRINT"■":NEXT
81  FORX=31TO32:CURSORX,8:PRINT"■":NEXT
82  FORX=37TO38:CURSORX,8:PRINT"■":NEXT
83  CURSOR39,10:PRINT"■":CURSOR38,9:PRINT
"■":CURSOR37,9:PRINT"■"
84  CURSOR38,10:PRINT"■":CURSOR39,6:PRINT
"■":CURSOR39,8:PRINT"■"
85  FORX=13TO14:CURSORX,8:PRINT"■":NEXT
86  FORX=19TO20:CURSORX,8:PRINT"■":NEXT
87  CURSOR15,7:PRINT"■":CURSOR21,7:PRINT"
■"
88  CURSOR15,9:PRINT"■":CURSOR21,9:PRINT"
■"
89  CURSOR15,6:PRINT"■":CURSOR21,6:PRINT"
■"
90  CURSOR15,10:PRINT"■":CURSOR21,10:PRIN
T"■":NEXT:GOSUB91:RETURN
91  CURSOR20,20:PRINT"by Steve Molloy"
92  J=55834!:POKEJ,240:A=53786!:I=58:FORT
=0TO40:POKEA,I:I=I+1:IFI>61THENI=58
93  FORZ=0TO99:NEXT:NEXT:RETURN
94  CONSOLE12,13,2,36:COLOR,,7,1:CLS:PRIN
T"The aim of the game is to steer your '
man' around the screen using the  cursor
 control keys."
95  PRINT"↓For each dot ('.') gobbled you
 scoreone point. For each square ('▒')fi
vepoints.";
96  PRINT" If you hit a mine ('●') the ga
me is over.";
97  PRINT" Each round ends every time you
 score two hundred points."
98  PRINT"↓↓    Press any key to start....
"
99  GETA$:IFA$=""GOTO99
100  CONSOLE0,25,0,40:RETURN
101  E=INT(RND(1)*35+2):F=INT(RND(1)*20+2
):RETURN
```



SORD

MEMORY MAPPER

This program allows you to examine a range of memory locations and to display the contents in both hexadecimal and character format (characters with ASCII values less than 32 are suppressed as they can do strange things to the display). The starting address of each line of display is shown at the left of the screen and byte numbers at the top and bottom of the screen. 128 characters at a time are displayed.

After each screenful, the program pauses for a key depression. Q terminates the run, R allows you to specify a new range, and another key continues with the present range. Once the range is exhausted, the program stops.

This program is useful for ferreting out secrets of the machine. Undocumented keywords I have found are:

POSTAD — (post-number) returns the address of the specified post number. Movement of a single sprite can be cancelled selectively by setting the returned address to 0 with POKE. This address is actually the start of a 5-byte sprite control table.

RDST$ — a function; its purpose I have not worked out.

RETL — another function with a purpose I have not worked out.

TERMC, — a function with a value of 13, the ASCII value of an end-of-line (RETURN) character.

If anyone out there knows what RDST$ and RETL do, please write in and share the knowledge!

H. Gunter
Hillary WA

```
10!Memory Mapper
20 print "UT":FCOL 15:BCOL 4:REM shift/control U and T
30 REPEAT
40         GOSUB $GET_RANGE
50         CONSOLE 0
60         FOR ADDRESS = LOW TO HIGH STEP 128
70             GOSUB $PRINT_PAGE
80         NEXT ADDRESS
90         PRINT CURSOR(0,23);"X";:REM shift/control X
100        LOCATE 0,21
110        CONSOLE 1
120 UNTIL A$<>"R" AND A$<>"r"
130 END
140$GET_RANGE
150 CLS
160 PRINT CURSOR(8,0);"Memory Mapper"
170 PRINT
180 ON ERROR GOSUB $LOW_ERROR
190$GET_LOW
200 INPUT "Start address; ";LOW
210 ON ERROR GOSUB $HIGH_ERROR
220$GET_HIGH
230 INPUT "  End address; ";HIGH
240 ON ERROR GOSUB $OTHER_ERROR
250 IF LOW>HIGH THEN TEMP=LOW:LOW=HIGH:HIGH=TEMP
260 RETURN
270$LOW_ERROR:RESUME $GET_LOW:$HIGH_ERROR:RESUME $GET_HIGH
280$PRINT_PAGE
290 GOSUB $SETUP_PAGE
300 GOSUB $PRINT_MEM
310 PRINT CURSOR(0,23);"Q=abort; R=new range; other=continue";
320 REPEAT:REM flush keyboard buffer
330        A$=INKEY$
340 UNTIL A$=""
350 REPEAT
360        A$=INKEY$
370 UNTIL A$>""
380 IF A$="Q" OR A$="q" OR A$="R" OR A$="r" THEN ADDRESS=HIGH
390 RETURN
400$SETUP_PAGE
410 CLS
420 TL=31-LEN(NUM$(ADDRESS))
430 PRINT "Memory Map";CURSOR(20,0);"from";CURSOR(TL,0);NUM$(ADDRESS);" = ";
HEX$(ADDRESS)
440 PRINT "Range ";HEX$(LOW);" to ";HEX$(HIGH)
450 TA=ADDRESS+127
460 TL=31-LEN(NUM$(TA))
470 PRINT CURSOR(22,1);"to";CURSOR(TL,1);NUM$(TA);" = ";HEX$(TA)
480 GOSUB $BYTE_LABEL
490 PRINT
500 PRINT RPT$(38,"-"):REM graphics f
510 FOR C=0 TO 15
520     PRINT "     |":REM 5 spaces + graphics r
530 NEXT
540 PRINT RPT$(38,"-"):REM graphics f
550 GOSUB $BYTE_LABEL
560 RETURN
570$PRINT_MEM
580 S=ADDRESS:C=0:R=0
590 REPEAT
600         A=PEEK(S)
610         IF C=0 THEN PRINT CURSOR(0,R+R+5);"&";HEX$(S);
620         IF A>31 THEN PRINT CURSOR(C+C+6,R+R+4);CHR$(A)
630         PRINT CURSOR(C+C+6,R+R+5);
640         PRINT RIGHT$(HEX$(A),2)
650         S=S+1
660         C=(C+1)MOD 16
670         IF C=0 THEN R=R+1
680 UNTIL S>ADDRESS+127
690 RETURN
700$OTHER_ERROR:PRINT ERR;ERRL:END
710$BYTE_LABEL
720 PRINT "BYTE |";:REM graphics r
730 SEED=ADDRESS
740 FOR A=0 TO 15
750     PRINT RIGHT$(HEX$(SEED),1);" ";
760     SEED=SEED+1
770 NEXT
780 RETURN
```

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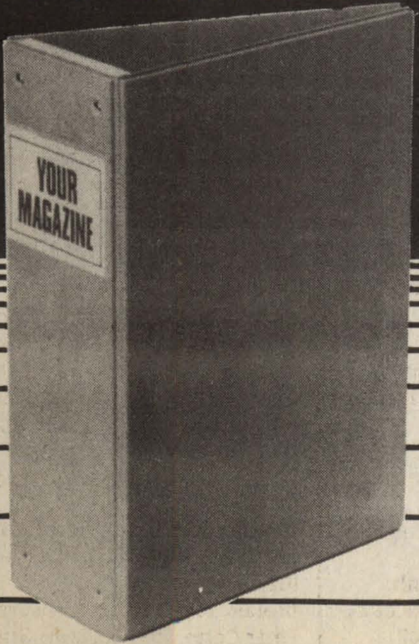

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USER GROUPS

User Groups must be the biggest source of information for computer users of all levels of experience, as well as for those just thinking about buying a computer. Go along to a meeting — see what others have achieved with their machines.

Australian Capital Territory

ACT PC Users' Group, Nick Hammond, PO Box 188, Parkes 2600. Meetings last Monday each month at Reid Tafe, 8.00 onwards. (062) 86 1102.

ACT VIC-20 Users' Association, Chris Groenhout, 25 Kerferd St, Watson 2602. Meetings first Monday each month at Boys' Grammar Scout Hall, Red Hill, 7.30 onwards. (062) 41 2316.

Albury Wodonga Apple User's Group, Jenny Scott (secretary), (060) 24 3225 or Don McLennan (president), (060) 46 028; meets second Wednesday every month at Wodonga High School at 7.30 pm.

ATARI, Chris McEwan, co-ordinator, ACTARI, PO Box E112, Canberra 2600, (062) 88 7861.

ACT Apple User Group, S. Nielsen, PO Box 1231, Canberra, ACT, 2601.

Australian ZX80 Users' Association (AZUA), David Vernon, 50 Waller Crescent, Campbell 2601; for ZX81, ZX Spectrum and Sinclair QL owners. Meets on the last Wednesday of every month at the Woden Valley High School library at 7.30 pm.

Barrier MicroBee User Group, Michael Quinn, 69 Eyre St, Brocken Hill, 2880. Meets the last Sunday of every month at the town library.

Canberra ACT Sirius User Group, Jim Bland, (062) 81 2824, (062) 81 2832.

Canberra Compucolor Club (CCC), Meets 7.30 on first Sunday of every month at the offices of Digital Equipment, 28 Lonsdale Street, Braddon ACT.

Canberra Microbee Users' Group, Meets 7.30pm on first Tuesday of every month at Woden Valley High School Library. PO Box 227, Weston Creek, ATC, 2611. (062) 71 6081.

Canberra Micro-80 Users' Group, Harry Cooper, 113 Owen Dixon Drive, Evatt 2617; meetings third Monday each month, 7.30 pm in the large theatre, 'J' Block, Reid TAFE, for System 80, TRS80 and similar. (062) 58 3700.

Canberra NEC Users' Group, Mal Smith, PO Box 173, Belconnen 2616; meets first Tuesday each month at Main Conference Room, CSIRO Headquarters, Limestone Avenue, at 7.30 pm. (062) 54 1614.

Canberra Osborne Group, c/o Geoff Cohen, PO Box 136, Kippax 2615, (062) 54 7608.

IBM User Group, Ron Pollack (president), PO Box 5010, Sydney 2001. Meets third Monday of every month at the Esso Training Centre Auditorium Forum Centre, 35 Clarence St, Sydney, at 5.30 pm. (02) 29 7033.

Kaypro User's Group (ACTKUG), meets on the third Thursday of each month from 6.30 pm in the J Block theatre, Canberra TAFE, Constitution Avenue, Reid. Contact Des Ireland, on (062) 47 5330.

Micsig, Registrar, PO Box 446, Canberra 2601.

PC Users' Group (for users of IBM PC and similar machines); meets on the last Monday of each month at 8 pm in the main theatre, Building J, Canberra TAFE. Contact address: PO Box E188, Parkes, ACT 2600.

Sirius/Apricot User Group, M J Sim, 253 Hindmarsh Drive, Rivett 2611; meetings 7.30 pm third Tuesday each month, 88 Wollongong Street, Fyshwick 2609.

New South Wales

Albury-Wodonga District Microbee User Group, Eric Eulenstein, 202 Kooba St, Albury 2640, (060) 25 1601.

APF Users' Group, Norm McMahon, 288 Kissing Point Road, Turramurra 2074, (02) 44 2645.

Apple Team Australia, 5 Walpole Place, Wahroonga 2076; (02) 48 1018.

Apple Users' Disk Exchange Club, Phillip Donnadieu, Flat 1 8-10 Lancelot Street, Allawah 2218; (02) 579 4547.

Apple Users' Group, Colin Rutherford, PO Box 505, Bankstown 2200; meets 6.30 pm second Monday of each month (Tuesday after public holidays) at Sydney Grammar School, Stanley Street, Sydney. (02) 520 0926.

Atari Computer Enthusiasts, Tony Reeve, PO Box 4514, Sydney 2001.

Ausborne, The Secretary, PO Box C530 Clarence Street, Sydney 2001; meetings third Wednesday each month at 6.30 pm, at Burwood RSL, 96 Shaftesbuyr Road, Burwood. (02) 95 5378. Bulletin board: (02) 439 7072.

Ausbug, Stephen Ford, PO Box 62, Londonderry 2753.

Australian Amiga User Association, provides a bi-monthly newsletter, news and reviews on software and hardware, hints and tips and howtos, and public domain software. Post to PO Box 389 Penrith 2750, or phone (047) 514 143.

Banana Coast Microbee Users Group, Ken Darby, 168 Sawtell Road, Toormina, 2452. (066) 531 439.

Bay Microbee Users Group, Wayne Herring, Box 308, Nelson Bay, 2315.

Bankstown-Fairfield Computer Group, Arthur Pittard, 36 Hubert Street, Fairfield 2165; meets 4th Wednesday of the month at Canley Vale High School, Prospect Road, Canley Vale at 7 pm, (02) 72 2881.

BEDBUG, Chris Fallshaw, Eltham College.

Blue Mountains Microbee User Group, meets first and third Friday of the month, at 7.30 pm at the Springwood Neighbourhood Centre. All correspondence to Joe McKay, Secretary, 25 Reserve Avenue, Blaxland 2774; (047) 39 3154.

Blue Mountains Homebrew Computer User's Group, Eric Lindsay (secretary), (047) 51 2632.

Bondwell User's Group, Ray Richards, 7/39 Ross Street, North Parramatta 2151, (02) 683 3940.

Broken Hill Microbee Users' Group, Peter Cotter, 533 Radium Street, Broken Hill 2800, (080) 88 1621.

Casio PB 700 User Group, Terry Gill, 27 Greenleaf Street, Wentworthville 2145, (02) 636 1652.

Central Coast Apple Users' Group, Charles Lee, (043) 67 6845 or Mick Tierney, (043) 41 9350. Meets first Tuesday each month at the Central Coast Grammar School, Erina Heights from 7.30 pm. (043) 84 3419.

Central Coast Microbee Club, Max Maughen, PO Box 36, Ettalong Beach 2257, first Tuesday every month at Applied Technology, West Gosford. (043) 24 2711.

Compucolor Users' Group, Tony Lee, 52 Cowan Road, St. Ive's 2075, phone (02) 449 8824.

Cooma Microbee User Group, Phil Zikan, PO Box 92 Cooma 2630, (053) 52 2756; meets on the second Friday of the month.

Dataflex User Group, Roger Walker, (02) 699 3877.

dBase Users' Group, PO Box 3019, Sydney 2001; meets every second Tuesday each month at the Bird Cameron Training Room, 15th Floor, Bligh House, 4 Bligh Street Sydney at 6 pm.

DEC Personal Computer Special Interest Group, Maggie Alexandria, DEC Australia, Northern Tower, Chatswood Plaza, Railway Street, Chatswood 2067, (02) 412 5252.

Dubbo and District Microbee Users' Group, John Taylor, 18 Cunningham Street, Dubbo 2830; meets fourth Wednesday each month at 7.30 pm in the Dubbo High School Computer Room.

Griffith Computer Association, Ron Gauci, PO Box 425, Griffith 2680, (069) 62 5877.

Griffith Microbee User's Group, Rick Mines, 2 Edmondson Avenue, Griffith, 2680; meets the fourth Monday of each month at Neighbourhood House at 7.30 pm.

Hawkesbury Apple User Group, Secretary Steve Bennett; meets fourth Monday each month at 7.30 pm, Richmond Primary School, (045) 78 2195.

Hawkesbury Commodore Computer Club, Richard Farrell, 12 Inverary Drive, Kurmond 2757; meets fourth Tuesday of each month at 7.30 pm at Neighbourhood Centre, West Market Street, Richmond 2753.

Hawkesbury Microbee Computer Club, Peter Christie, 9 Potts Street, Richmond 2753; workshops 7.00 pm third Friday, and general meetings 7.30 pm first Friday of each month in the Microbee Network Room, Library Building, Richmond High School, Cnr Penrith and Lennox Streets, Richmond 2753. (045) 78 4613.

Hitachi/6809 User Group, meets on the first Saturday of each month, at 2 pm; contact Robert Lohr on (02) 662 4150, after 6 pm for locations.

HP Desktop Computer Users' Group, Dr R W Harris, CSIRO Division of Mineral Physics, PMB 7, Sutherland 2232, (02) 543 3460.

Hewlett-Packard Users Group (HPUG), Darren Stokes, 3 Buckley Drive, Coonamble 2829.

Hunter Users' Group — All Microcomputers, Secretary, PO Box 39, Broadmeadow 2298; meets on the second Wednesday of each month in Room 308, Building W, University of Newcastle, at 7.45 pm. Membership is primarily Apple II oriented, but anyone with interest in micros welcome.

Illawarra Apple Core Secretary, Chris Haley, 358 Cordeaux Road, Mt Kembla 2526. Meets at 8 pm in the library of the Holy Spirit College Bellambi on the 4th Monday of each month.

Illawarra IBM PC Club — All IBM compatibles, Dick Adams (secretary), c/o John Lysaght Ltd, Delivery Code 29, PO Box 77, Port Kembla 2505; (042) 75 6721.

Illawarra Microbee Computer Club, Ronald Read, 49 Beatus St, Unanderra, 2526. Meets every 4th Monday at 7.30 pm, Wollongong Institute of Education, Northfield Ave, Gwynneville; (042) 95 1142.

Illawarra Super 80 Users' Group, Jim O'Grady, Chairman, PO Box 1775, Wollongong 2500.

Lotus Users Group (Sydney), Peter Philippsohn, Box 5010, Sydney 2001.

Macarthur Computer Users Association, Brian Cooper, 20 Hunter St, Campbelltown, 2560. Meets first Monday each month at Airds High School, Briar Road, Campbelltown 2560, at 7.30 pm; all machines are catered for. (046) 25 1146.

Macquarie Microbee Users' Group, Brian Thompson. Meetings first Monday each month at Denistone East Primary School at 7.30 pm. (02) 85 1659 after hours.

Macwest Users' Group, PJ Lynden, 11 Toohey Avenue, Westmead 2145. Services will include newsletter, bulletin board and public domain library. Membership $10 per annum.

Maitland Microbee Users Group, Ross Bell, 42 Redbill Drive, Woodberry, 2321. (049) 332 972.

MEGS (Microcomputer Enthusiasts' Group), John Whitlock, PO Box 1309, Chatswood 2067; meetings third Monday each month at rear of St Andrew's Presbyterian Church, 37 Anderson Street, Chatswood 2067, (02) 638 1142.

Microbee Users' Club (Broken Hill), Peter Cotter, 533 Radium Street, Broken Hill 2880, (080) 48 8813.

New England Microbee Users Group, CSIRO, Pasteral Research, New England Highway, Armidale, 2350. (067) 784 000.

Newcastle Microbee Users' Group, Heather Clarke, 31 Pokolbin St, Broadmeadow, 2292.

Newcastle Microcomputer Club, Angus Bliss, PO Box 293, Hamilton 2303; meetings 7.30 pm second and fourth Monday each month at Room G12, Physics Building, Newcastle Uni. (049) 67 2433.

Nightline, is an after-hours (10 pm to 7 am, seven days a week) computer information service, which provides local and overseas news, clues and reviews. Mainly for Apple users, but others are welcome. Offers around 20 different bulletin boards, and uploading and downloading facilities; phone (02) 528 8968. Sysop: Hamish Bowly.

NSW Primary School Microbee Users' Group, Mr Peter Stretton, c/- Hunters Hill Primary School, Alexandra Street, Hunters Hill 2110.

NSW 6800 Users' Group, 27 Georgina Avenue, Keiraville 2500.

Northern Beaches VIC User Group, E Tuxford, 161 Barrenjoey Road, Newport 2106, (02) 997 2467.

Northern NSW MICC Chapter, Alen Hartley, Dundurrabin via Dorrigo 2433, (066) 57 8160.

Open Access User Group, Steve Cook, Advanced Data Technology Pty Ltd, 1 Terrell Avenue, Wahroonga 2076; (02) 48 0511.

OSI Users' Group, Nigel Bisset, (02) 411 7142.

Ozbeeb User Group for the Acorn BBC Microcomputer, Meets twice a month at the Australian Film & Television School — Open Program, 3 Lyon Park Road, North Ryde — second Wednesday of every month at 7 pm (organised talks and demonstrations); 4th Monday of each month at 6.30 pm (general meeting). Annual subscription for full membership $10.

PC Users Group, Janis Meyers, Box 5010, Sydney 2001. 02) 297 033.

Pocket Computer Users' Club, George Antonijevic; for those interested in pocket computers, whatever the brand. Meetings held on the first Wednesday of each month at 7.30 pm at the Woodstock Community Centre, Church St, Burwood 2134, (02) 683 4296.

President Computer Users' Group for owners of President and other IBM-compatible PC and AT computers. Meets on the last Tuesday of every month at the Hornsby Inn, (Claude Fay's Hotel), 29 Florence Street, Hornsby, from 8 pm.

Contact Raymond or Trichia Toms (02) 456 3756, or Rick West (02) 872 4177.

RAT Microbee Users Group, James Quinn, Box 207, Raymond Terrace, 2324.

Sega Users' Club, Jim Robinson — Penrith branch, (047) 30 1834; Jeff Wilson — Parramatta branch, (02) 684 4128.

Sharp PC-1350 User Group, contact Bob Hamilton, (02) 639 3637.

Sharp MZ-700 User Group, contact Terry Gill, 27 Greenleaf Street, Wentworthville 2145; (02) 636 1652.

Sirius/Apricot User Group, Mark Dickinson, Barson Computers; meets first Tuesday each month at 6.30 pm, Unit D, 55 Talavera Road, North Ryde 2113, (02) 888 9444.

Sorcerer Users' Group, President Michael Mannaz; PO Box E162, St James 2000; meetings third Friday each month at 8 pm in Greenwich Community Hall, Greenwich Road, Greenwich 2065.

Southern Districts Commodore Users' Group, Lex Toms, 3 Lucille Crescent, Casula 2170. Meetings first and third Wednesdays each month, API Hall, Currajong Road, Prestons 2170. (02) 602 8691.

Sutherland Super 80 Group, Jim Traeger, (02) 525 2018.

Sydcom 64 (C64 User Group), Philip Dean, GPO Box 1542, Sydney 2001; meets on the second Wednesday of each month at the Abraham Mott Hall, Argyle Place, Miller's Point.

Sydney Fort Group, Peter Tregeagle, 10 Binda Road, Yowie Bay 2228; meets second Friday of each month at 7.00 pm in the John Goodsell Building, UNSW room LG19. (02) 524 7490.

Sydney Kaypro Users' Group, Hans Schneider, C/O Dr H. Schneider, Geography Department, UNSW, PO Box 1, Kensington 2003; meetings second Tuesday of each month, 8.00 pm, Burwood RSL Club. (02) 697 4400 (w) or (02) 309 2961 (h).

Sydney Lotus 1-2-3 User Group, Ron Pollak, (02) 29 5316.

Sydney Macintosh Users Group, Alan Todhunter, Box 152 Holme Building, Sydney University, 2006. Meets the last Tuesday of the month at 6.30 pm at Laboratory 1 of the Carslaw Building, Sydney University. (B) (02) 736 0488, (H) (02) 637 6775.

Sydney Microbee User Group, Ron Taylor (secretary), (043) 41 5251 after 7 pm; PO Box C233, Clarence St, Sydney 2000. Meets third Saturday each month from 1 to 4.30 pm, in the assembly hall of Strathfield Girls' High School, Albert Road, Strathfield, (02) 810 4758 (after 7.30 pm).

Sydney Multitech Owners Group (SMOG), queries addressed to Marcia Wilson, PO Box 312, Darlinghurst 2010.

Forming a Sinclair QL Users Group, Vadim Kuchin, Box 729, Parramatta, 2150.

Sydney TRS80 Users' Group, meetings second, third and fourth Saturday of each month at Botany. (02) 666 4716 bh.

System 80/TRS-80 & Colour Computer Users' Group, Jim Fisher, 37 Fairburn Avenue, West Pennant Hills 2120.

TAG — The Access Group, Bob Dolton, PO Box 943, Orange 2800; for Access and Actrix users.

The Great Western Computer Users' Group Jim Graham, PO Box 210, Wentworthville 2145; (02) 636 9219. All micro users are welcome. A 40-minute beginner's session is held at the start of each meeting. The club meets on the first Tuesday of each month, at 8 pm. **The Morrow User Group** Alan Stern, (02) 750 8274; meets on the fourth Wednesday of every month at the Woodstock Community Centre, Church Street, Burwood at 7.30 pm.

TI Sydney Home Computer Users' Group, PO Box 149, Pennant Hills 2120.

Tuggerah Lakes Computer Users' Group, Frank James, 125 Woolana Avenue, Budgewoi 2262. Meetings second Thursday each month at Old Primary School, Wyong, at 6.30 pm. (043) 907 339.

Wagga Microbee Users' Group, John Simmons, 47 Undurra Drive, Glenfield 2650. Meetings first and third Tuesdays each month in the Tolland-Glenfield Neighbourhood Centre at 8.00 pm. (069) 31 1302.

Western Sydney PC and Compatible User Group, Ben Sharif, (047) 36 4825. Meets on the third Sunday of the month at 1.30 pm, 27 Cosgrove Crescent, Kingswood 2750.

Wizzard User Group, John Mifsod, 150 Bouganville Road, Blackett 2770, (02) 628 0801.

Wizzard Software Exchange of Australia, John Pospisil, 3/7 National Avenue, Bulli, 2516. (042) 67 4518.

ZX-Spectrum Users' Club, Craig Kennedy, PO Box 466, Epping 2121.

Victoria

Albury Wodonga User's Group, Jenny Scott (secretary), (060)24 3225 or Don McLennan (president) (060) 46 028. Meets second Wednesday of every month at Wodonga High School at 7.30 pm.

Apple Users' Society of Melbourne, D Halprin, PO Box 43, Forest Hill 3131, (03) 387 3221.

Atari User Group Melbourne, Kelvin Eldridge, PO Box 173, Reservoir 3073.

Australian Forth Interest Group, Tony Latermore, PO Box 704, Sale 3850, (051) 44 2011.

Australian North Star Users' Association, PO Box 194, Wangaratta 3677.

Ballarat Computer Users' Group, Publicity Officer: John Preston, (053) 31 4363.

BBC Users' Group, Mr Howell (Secretary), 1 Washusen Road, Heathmont 3135, (03) 420 2611 (B). Meets last Wednesday each month from 7 to 9.30 pm at Copiquest, 423 Clarendon Street, South Melbourne 3205.

Billanook Computer Forum, Maurie Canterbury, Cardigan Road, Mooroolbark 3138, (03) 725 5388.

Chip 8, 6800, 1802 User Group, Frank Rees, 27 King Street, Boort 3537.

Compucolor Users' Group, L Ferguson, 12 Morphett Avenue, Ascot 3342.

DEC Personal Computer Special Interest Group, see NSW entry.

Essendon Commodore 64 User Group, George Stathoulis, 8 Byron Avenue, East Keilor 3033, (03) 337 4159.

Forth Interest Group, Lance Collins, PO Box 103, Camberwell 3124. Meets on the first Friday of the month at the Bowen Street Neighbourhood Centre, 102 Bowen Street, Camberwell South 3124. (03) 29 2600.

Geelong Commodore Computer Club, Phil Rayner, PO Box 1455, Geelong 3220, (052) 75 4949.

Geelong Computer Club, Colin Lowne, PO Box 520, Geelong 3220; (052) 5 1232. Meets at 8 pm, on the first and third Friday of each month in the rooms of the Geelong Amateur Radio Club, Storrer Street, East Geelong.

IBM & Columbia Computer Users' Club, Giles Bray, 22/11 Auburn Grove, Hawthorn East 3123. Meets second Tuesday each month, 7.30 pm, at the Victorian College of Pharmacy, (03) 82 7632.

Kaypro Users' Group of Victoria, George Kunz, PO Box 159, Forest Hill 3131; meetings fourth Sunday each month at Burwood State College Community Resources Centre at 2 pm. (03) 857 5462.

KAOS (Ohio Scientific), John Whitehead, 17 Frugal Cres, Knoxfield 3180. Springvale meeting, first Sunday of each month (except January) at 1 pm. Essendon meeting last Sunday of each month except December. Phone (03) 763 5983.

Latrobe Valley Colour Computer Users' Group, George Francis, 31 Donald Street, Morwell 3840; for TRS80 and MC10 users. (03) 22 1389.

Melbourne Atari Computer Enthusiasts, PO Box 340, Rosanna 3084. Meetings held on second Sunday of each month (except January) at 12 noon at Monash University Rotunda.

Melbourne BBC Users' Group, meets last Wednesday in the month at Conquest P/L, 423 Clarendon Street, South Melbourne. Ring the secretary on (03) 729 4619 (AH).

Melbourne Lotus 1-2-3 Users' Group, Robert Taylor, (03) 267 4800.

Melbourne Microbee Users' Group (MBUG Australia Inc.), Grant Forrest, PO Box 157, Nunawading 3131; meets at 7.30 pm on the second Wednesday of each month at Mount Waverley Community Centre, Cnr Miller Crescent and Stephenson's Road, Mount Waverley. Different types of membership, including standard, and student. Hackers night held on fourth Wednesday of each month at the same address.

Melbourne PC User Group, meets on the first Wednesday of the month at 6 pm in the Ground Floor Auditorium, Clunies Ross House, 191 Royal Parade, Parkville. Contact Garry Bryant (03) 615 4844. Mail to PO Box 1728P, Melbourne 3001.

Melbourne Hitachi Users' Group, Branko Colavizza, PO Box 191, Rosanna 3084, (03) 434 2541.

Melbourne Super 80 Users' Group, Hon. Sec. Victor Shuttleworth, (03) 723 2713.

MICOM (Microcomputer Club of Melbourne), Steve Walker, PO Box 60, Canterbury 3126. Meets on the third Saturday of the month at 2 pm, in Building E, Victoria College. (059) 78 6133.

Motorola Users Group Society (MUGS), Tony Douglas, 10 Savannah Crescent, Epping 3076. Meets on the second Tuesday of the month, at 7.30 pm, at Balwyn Branch Library, 366 Whitehorse Road, Balwyn 3103.

National Mutual Micro Users' Group, R Prewett, NMLA, PO Box 2830AA, GPO Melbourne 3001; for National Mutual staff.

National Sinclair User Group, PO Box 148, Glen Waverley 3150.

NEC Portable Users' Group, D Green; meetings second Wednesday of each month at Myers Computer Centre, Lonsdale Street, at 7.30 pm. (03) 611 3380.

Northern/Western Suburbs Computer Users' Group, John King, 284 Union Road, Moonee Ponds 3039. Contact CP/M Data Systems, (03) 338 9304.

Peninsula Computer Club, George Thompson, 3 Patterson Street, Bonbeach 3196; meets second Tuesday each month at Chisholm College, Frankston 3199; many types of computers catered for. (03) 772 2674.

Puckapunyal Microbee Users Group, G Chinner, 9 Monash Drive, Seymour, 3660.

Sega Users' Club, Peter Lindeman, 6 Bay Street, Port Melbourne 3207.

Seymour-Pucka Computer Club, Garry Sutton, 25 Malaya Road, Puckapunyal 3662; (057) 93 1091.

Sharp Computer Users' Association, The President, 7 Faye Street, East Burwood 3151.

Sharp MZ-700 User Group, Anthony Saliba, 6 Elm Court, Rosebud 3939; (059) 86 3024.

Spectravideo Users' Group, Mitch Raitt, 3 Clivejay Street, Glen Waverley 3150, (03) 233 2357.

Sorcerer and CP/M Users of Australia, Secretary, SCUA Inc, GPO Box 2402, Melbourne 3001. Meets on the first Sunday of the month, February to December, at 2 pm at Victoria College, Burwood Campus, 221 Burwood Highway, Burwood 3125. RCPM (03) 754 5081.

Southern Amstrad User Group, Bob Patterson, PO Box 100, Seaford 3196. Meets third Thursday each month at John Paul College Senior Campus, McMahons Road, Frankston, at 7.30 pm.

TI-99/4A Users' Group Melbourne, Wayne Worladge, 123 Ashburn Grove, Ashburton 3147, (03) 25 1832.

The Motorola User Group (MUGS), Clive Allan, 11 Haros Avenue, Nunawading 3131; group is interested in 6800/02/09-based computers, particularly if running Flex, although this is not a prerequisite to join. (03) 878 1298.

Upper Yarra Computer Reference Group, for microcomputer enthusiasts and educators. Contact Albin Wallace, Woori Yallock Education Centre, (059) 64 6617.

Victorian Association of Computer Educators, Arthur Totrall, PO Box 69, Whittlesea 3757.

Victorian Osborne Users' Group, Tony Clay, PO Box 169, Camberwell 3124, (03) 697 6479.

Victorian VZ-200 User Group, Luigi Chiodo, 24 Don St, Reservoir 3073, (03) 460 3770.

Victorian Wizzard Users' Group, Barry Klein, 24 Russell Street, Bulleen 3105, (03) 850 7275.

West Microbee Users Group, Peter Hallgartent, PO Box C299, ST Albans 3021. (03) 366 7055.

Wizzard User Group, for owners of Dick Smith Wizzard and Funvision computers. The group operates only by mail and phone at present. Contact Barry Klein, 24 Russell Street, Bulleen 3105, (03) 850 7275.

Yarra Valley Commodore User's Group — affiliated with the Melbourne Central Commodore User's Group, Barrie Vickers, PO Box 176, Lilydale 3140, (03) 735 0638; meets on the first Tuesday of each month at the Melba Hall, Cnr Market & Castella Streets, Lilydale at 8 pm.

Yarrawonga Computer User Group, Chris Younger, 10 Witt Street, Yarrawonga 3730, (057) 44 385; for all machines.

Queensland

Adventure Club, Christine Ogden, 37 Samford Road, Leichhardt, Ipswich 4305; for all Adventure-type game players.

Adventure News, Stuart Elflett, MSF.550, Toogoolawah 4313. For Commodore 64 adventures only.

Adventure Special Interest Group, Ernie Sugrue, PO Box 594, Maryborough 4650.

Amstrad Postal Users' Group, Frank Elliot, 59 27th Avenue, Palm Beach 4221. A group for isolated Amstrad users — meets monthly by cassette.

Apple-Q — The Brisbane User Group, The Secretary, PO Box 721, South Brisbane 4101; meetings every third Sunday of month at Hooper Education Centre, Kuran Street, Wavell Heights 4012. Centre is open from 8.30 am till 4.30 pm; members encouraged to bring Apple along.

Australian Sirius Users' Group, PO Box 204, Chermside 4032; looks after the needs of Sirius One and Victor 9000 computer users. (07) 350 2611.

BASIC User Group, Chris Lucey, Cranium Computers, 34 Lawless Street, Blackwater 4717.

Brisbane Amstrad Computer Club, John Roberts on (07) 283 3349. Meets four times a month with the first meeting held on the first Tuesday at Junction Park State School, Weidheim St, Annerley.

Brisbane Medfly Users' Group, K J Walker, 120 Highgate Street, Coopers Plains 4108.

Brisbane Sinclair (Spectrum) Computer Club, V Lewis, 37 Samford Road, Ipswich 4305. Meets third Sunday at Everton Park State High School, at 2.00 pm. (07) 355 7809.

Brisbane Super 80 Users' Group, Gary Gatfield, (07) 355 3173.

Brisbane Youth Computer Group, A Harrison, PO Box 396, Sunnybank 4109.

Brisbug, Sylvia Willie, PO Box 305, Wynnum Central 4178. Meets at 2 pm on the third Sunday of each month at the Toowong High School. (07) 393 3388.

Cairns District Microbee Users' Group, Chas Eustance, 21 Marr Street, Edmonton 4869, (070) 55 4531.

Commodore Computer Users' Group, Mr NR Chambers, PO Box 274, Springwood 4127, (07) 808 2125.

Computer Owners' Group, Betty Adcock, 42 Lucan Ave, Aspley 4034. Meets second Wednesday each month, 7.45 pm; all kinds of computers are catered for. (07) 263 4268.

Computer Users Group of Australia, David Siebuhr, PO Box 166, Pittsworth 4356. Meets first Tuesday of each month at 5 pm in the St Peters Lutheran Hall, Grand St, Pittsworth. Phone (076) 931 690.

Darling Downs Apple Users' Group, Lloyd, PO Box 53, Darling Heights 4350. (07) 38 3060.

DEC Personal Computer Special Interest Group, see NSW entry.

Gold Coast Microbee User Group, Col McLaren, 1/100 Imperial Parade, Labrador 4215. Meetings first Sunday each month, 3.00 pm, at the Southport High School. (075) 31 4610.

IREE Microcomputer Interest Group, N Wilson, PO Box 811, Albion 4010.

Mackay Microbee User Group, Geoff Gehring, PO Box 230, Mackay 4740, (079) 42 3214.

MSX-Australia, PO Box 1319, Southport 4215.

NEC PC-8000 Users Group, David Clark, PO Box 281, Upper MT Gravatt, 4122. (B) (07) 52 3662, (H) (07) 343 7680.

Osborne Users' Group of Queensland Uni, Glen McBride. Meetings second Wednesday each month, open to all. (07) 870 1177.

PC-8000 Users' Group of Queensland, David Clark, (07) 343 7680 (AH). Meets second Friday of each month at the Old Town Hall, South Brisbane.

QBUG (Queensland BBC Users' Group), Meets first Tuesday each month. Ring (07) 386 022 (AH) for details.

Queensland CP/M Users, The Secretary, PO Box 1025, Milton 4064. Meets on the last Sunday of each month at the University of Qld, Civil Engineering Room 1.01 (off Staff House Road) from 1 pm.

Rockhampton Microbee Users Group, A Parr. Frenchville State Primary School, Frenchville Road, North Rockhampton, 4701. (079) 27 9065.

Sharp User Group of Brisbane, meets on the second Wednesday of each month at Graceville State School. All Sharp owners welcome. Contact Bill Laidlaw, 51 Sandon Street, Graceville 4075; (07) 379 3457.

Sega Users' Group, Robert Horkings, PO Box 148, Fortitude Valley 4006, (07) 52 5603; meetings first Saturday of each month, YMCA Hall at 1 pm.

Southport Commodore Computer Users Group, Bill Fitzpatrick, PO Box 790, Southport 4125, (075) 32 0061.

Superboard Users' Group, Ed Richardson, 146 York Street, Nundah 4012.

Tandy, Apple, Commodore User Group, Chris Lucey, 34 Lawless Street, Blackwater 4717.

The Microcomputer Society, The Secretary, PO Box 580, Fortitude Valley 4006; meetings are held on the second Friday of each month in the Old Town Hall, corner Vulture and Graham Streets, South Brisbane 4101. Meetings start at 7.30 pm; if main gate is closed use the back stairway.

Twin Towns Computer Users Group, Cyril White, 16 Burdock Street, Palm Garden Water. Meets every second Tuesday night at the Elanora State School from 7 pm to 9.30pm. (075) 562 336.

Townsville Microbee User Group (TMUG), Mannie Van Rijswijk, PO Box 5751, MC, Townsville 4810. Meetings 7.30 pm on second and fourth Mondays each month on the Ground Floor, St Margaret Mary's Secondary School, Crowle Street, Hermit Park 4812.

TRS80/System 80 Computer Group, Secretary, 16 Laver Street, Macgregor 4109. Meets first Sundy each month at Lindum Hall, Lindum Street, Lindum 4178, at 2.00 pm. (07) 343 5771.

University of Queensland Osborne User's Group, Glen McBride (president) (07) 870 1177, or Richard Duczmal (treasurer) (07) 377 3139. Meets on the second Wednesday of the month, in the Axon building on campus. Membership is open to both students and non-students.

VZ-200 Pacific Region Club, J D'Alton, 39 Agnes Street, Toowong 4066, (07) 371 3707.

Yass Microbee Users Group, 25 De Mestre Street, Yass, 2582.

ZX81 Club, P Carswell, 22 Braud Street, Bundaberg 4670.

South Australia

Adelaide Atari Computer Club (AACC), Secretary, PO Box 333, Norwood 5067. Meets at Gilles Street Primary School, City, on first Monday (second if first is on public holiday) of each month, 7.30 to 9.30 pm.

Adelaide Beebnet, Contact the secretary at PO Box 262, Kingswood, SA.

Adelaide Lotus 1-2-3 User Group, Paul Wragg, Pannell Kerr Foster, GPO Box 1969, Adelaide 5001.

Adelaide Micro User Group, Helen Ross, 36 Sturt Street, Adelaide 5000; for TRS80 and System 80 users.

Adelaide Osborne Group, Russell Barter, The Secretary, GPO Box 603, Adelaide 5001.

Adelaide PC Users' Group, PO Box 68, Walkerville 5081; contact John Roberts (08) 212 5020 (B). Meets on the second Thursday of each month, at 195 Gilles Street, Adelaide, at 7.45 pm; or as advertised in the computer section of the *Advertiser* on the Saturday prior.

Adelaide Sega User's Group, John Maynard. Meets on the first Wednesday of each month at 7.30 pm, at the Lutheran Hall, 137 Archer Street, North Adelaide. (08) 264 2747.

Adelaide Super-80 User's Group, Mr L White, The Secretary, 503 Churchill Road, Kilburn 5084; meets on the third Monday of each month, (the second Monday in the case of a public holiday) at 7.30 pm in the canteen of Mason & Cox Foundry, 123 Hayward Avenue, Torrensville 5031, (08) 260 6226. Subscription: $5 pa.

Aquarius Users' Club, Benedict Sabel, 7 Duncraig Lane, 5152. $5 membership fee covers the cost of a bimonthly newsletter.

Beebnet, BBC and Econet User Group PO Box 262, Kingswood 5062; the group intends to produce a newsletter on a monthly basis. It is interested in any software producers or distributors who would be interested in serving the group's market requirements.

Commodore/VIC Computer Users' Association, Mr Eddie Hann, 13 Miranda Road, Paralowie 5108; the SA branch meets monthly.

Compucolor-Intecolor Users of South Australia, PO Box 86, Torrensville 5031, (08) 352 3296.

DEC Personal Computer Special Interest Group, see NSW entry.

Kaypro User Group, Ralf Engler, 16/34 John Street, Payneham 5070.

Microbee Users' Group of South Australia (MUGSA), The Secretary, GPO Box 767, Adelaide 5001.

Sega Users' Club, H A Jacobson, 10 Pioneer Avenue, O'Sullivan Beach 5166; (08) 382 7967.

South Australian Apple Users' Club, PO Box 322, Prospect 5082; secretary (02) 293 7183. Club caters for Apple II series and Mac computer users. Meets on the first Friday of every month at the Prospect Town Hall.

South Australian Commodore Computers' User Group, Eddie Hann, Secretary, PO Box 427, North Adelaide 5006; meetings second Tuesday each month, 7.30 pm, at Royal Caledonian Hall, 379 King William St, Adelaide 5000. (08) 258 6367.

South Australian Foundation for Com-

puter Literacy, Michael Kennett, PO Box 210, Norwood 5067; caters for children from six years (unaccompanied) or four years with older friend or brother or sister. Special emphasis on the needs of handicapped, educationally disabled and socially disadvantaged children, but *all* children welcome. Family participation encouraged. (08) 51 5474.

South Australian Peach User Group, Geoff Drury, 27 Creslin Tce, Camden Park 5038; special interest group attached to the SA Microprocessor Group, which holds separate meetings; (08) 295 2778 ah.

South Australian Microprocessor Group Inc (SAMG), The Secretary, PO Box 113, Plympton 5038, (08) 278 7288.

Sorcerer Users' Group of South Australia, Don Ide, 14 Scott Road, Newton 5074.

South Australian Apple Users' Club, The Secretary, c/- The Bookshelf, 169 Pirie Street, Adelaide 5000.

South Australian Microprocessor Group Inc.(SAMG), secretary Rick Matthews, 9 Anglesey Ave, St Georges 5064; (08) 79 3445. Meets second Friday of every month, Institute of Engineers, Aust Bldg, 11 Bagget St, North Adelaide.

South East Computer Enthusiasts' Group, Glenn Mibus, 3 Millard St, Mount Gambier 5290; meetings second and fourth Tuesday of each month from 6.30 pm at Mt Gambier High School Computer Room, for all machines and interested parties. (087) 25 1046.

Northern Territory

Alice Springs Microbee Users' Group, Douglas Craigie, c/- PO Box 3230, Alice Springs 5750.

Darwin Microbee Users' Group (DBUG), Felino Molina, PO Box 3111, Darwin 5794, (089) 82 5613 bh, (089) 88 1455 ah.

Darwin PC Users' Group, Terry O'-Brien. Meets on the first Sunday of every month at 8 pm, at 5 Binet Court Malak. (089) 27 4454.

Northern Territory Computer Club, Ian Diss; meets at Wulagi Primary School on the first and third Thursday of each month at 7.30 pm. Users of all machines and other interested parties welcome. (089) 27 9208.

Northern Territory 80 Computer User Group, R T O'Brien, 433 McMillans Road, Jingili 5792.

VZ-200 Users' Club, 7 Abbott Crescent, Malak 5793, (089) 27 2830.

Western Australia

Agriculture Users' Group, c/- Mr R Fenwick, Department of Agriculture, Albany 6330. For farmers and the agriculture service industries.

CU West WA Compucolor/Intecolor Users' Group, John Newman, 8 Hillcrest Drive, Darlington 6070.

DEC Pesonal Computer Special Interest Group, see NSW entry.

KAOS-WA, Gerry Ligtermoet, 39 Cloister Ave, Manning 6152; for Ohio Scientific Users. (09) 450 5081.

Kaypro User Group of Western Australia, Ainslie Sharpe, PO Box 91, Claremont 6010; meetings second and fourth Mondays of each month in the Canteen of the Department of Agriculture, Jarrah Road, South Perth 6151. (09) 384 5511.

Microbee Users' Group of Western Australia, meets at 7 pm on the first Sunday of the month in the Nurses' Lecture Theatre of the Sir Charles Gairdner Hospital at Shenton Park. Write to 4 Gannkirk Road, Greenwood, WA 6024. (09) 294 1833.

PC Micro Users' Group, meets on the first tuesday of the month at Royal Kings Park Tennis Club, Lower Tennis Pavilion, Kings Park Road, at 5.30 pm. Contact Peter Goodwin on (08) 274 5911 (B), or on 386 4502 (H).

OSWEST-Osborne Users' Group of Western Australia, Mal Ferguson, PO Box 149, Applecross 6153. Meets first and third Wednesdays at the Palmyra Recreation Centre and the Subiaco Exhibition Hall respectively from 7.30 pm, for Osborne and other interested computer users. (09) 295 1449.

Perth 80 Users' Group, C Powell; for System 80 and TRS80 users. (09) 457 6849.

Perth Hitachi Peach Club, The Secretary, 1 Charf Court, Riverton 6155; for Hitachi Peach and 6809s. (09) 367 5880.

Sharp PC Users' Group, John Paulic, PO Box 79, Gosnells 6110, (09) 398 6303.

Sega Users' Group, John McClemmon, 33 Favell Way, Balga 6061; (09) 342 5905.

The Sorcerer & CP/M Users' of Australia, Dave, 22 Verbena Road, Willetton 6155, (09) 457 1917. Meets every fortnight.

TI Users Group of Perth, Nigel Mercer, PO Box 246 Mt Lawley 6050, (09) 409 9683. Meets on the third Saturday of eac month.

Sorcerer Computer Users of Australia, The Secretary, 90 King George Street, South Perth 6151, (09) 367 6351.

The West Australian Atari Computer Club, Mr Alf Gaebier (Secretary), PO Box 7169, Cloisters Square, Perth 6000.

The WA Cromenco Users' Group, CA Marshall, Suite 2, 294 Rokeby Road, Subiaco 6008. Meets third Tuesday each month. (09) 382 2692.

VIC-Ups, G. Padfield, (09) 451 4629.

Western Australian Wizzard Users' Group, John Reid, 13 Wenlock Road, Wattleup 6166, (09) 410 2359.

Western Australian ZX Users' Group, Phil Taylor, (09) 328 4111 bh.

Western Australian University Computer Club, 2nd Floor, University of WA, Guild Building, (09) 386 1455.

Tasmania

Apricot User's Group, Rick Snell, PO Box 286 C, GPO Hobart 7001, (002) 23 399926.

DEC Personal Computer Special Interest Group, see NSW entry.

Devonport Computer Interest Group, John Steveson, RSD 422, Sheffield 7306, (004) 92 3237.

Hobart Tasbeeb. Meets on the first Friday of the month at Rose Bay High School at 7.30 pm. (002) 34 2704.

Launceston Microbee Users Group, Graham Jones, 28 Lavender Grove, Launceston, 7250.

Down Under Atari User Group; contact Robert Bronstein, 191 Rokeby Street, Howrah 7018.

Spectravideo Computer Users' Group, PO Box 191, Launceston South 7249; membership costs $20, which entitles members to a newsletter and to discounts on computer equipment. (003) 44 2493.

Southern Tasmanian Amstrad Club, meets at 7.30 pm on the first Wednesday of the month at Elizabeth Matriculation College (first floor). Contact Vern McKay (002) 29 4528.

Tandy Hobart Users' Group, Ms KJ Rees, GPO Box 1271 N, Hobart 7001, (002) 72 1426; meets on the third Thursday of each month — contact Ms Rees for details of venue.

Tasbeeb, John Hannon, PO Box 25, North Hobart 7000; meetings first Monday each month at Elizabethan Matriculation College in D Block at 8 pm, for BBC computers. (002) 34 2704.

Tasmanian Apple Users Group, Ray Williams, PO Box 188, North Hobart 7008, meets third Tuesday each month at 8.15 pm, 73 Murray Street, Hobart.

Tasmanian TI User Group, Co-ordinator, 1 Benboyd Court, Rokeby 7019. Meetings third Sunday of each month at University of Tasmania, room 373. (002) 29 4009.

TAS-Micro, Peter Deckert, 1/456 West Tamar Road, Riverside 7250.

New Zealand

Palmerston North Microbee Users' Group, Contact R Anderson, 6 Hendon Place, Palmerston North, New Zealand.

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